

A Users Compendium On SMALL AGRICULTURAL MACHINERY AND IMPLEMENTS

(State / Region / Agroclimatic zone specific low cost, light weight, compact, Multi utility farm machinery and implements affordable to small and marginal farmers)



GOVERNMENT OF INDIA
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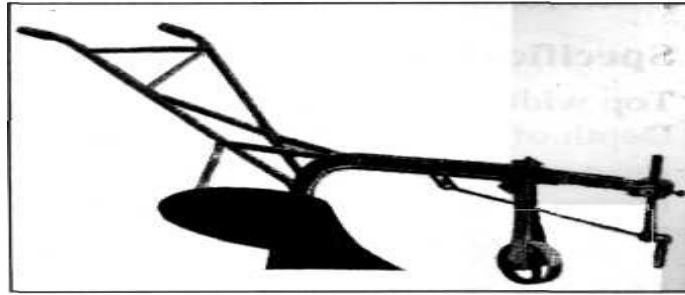
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Paddy –Machinery

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Animal Drawn Mouldboard Plough



Features:

The implement consists of a share, mouldboard, landside, handle, depth gauge wheel and wooden beam. The share is made from medium or high carbon steel and hardened to resist wear during operation. The mouldboard that inverts the soil is made of mild steel. The gauge wheel is used to control the depth of operation. It has convenient handles for easy operation. For operation the plough is moved in the soil with the help of a pair of bullock. Share of the plough penetrates into the soil and makes a cut below the soil surface. Mould board lifts, pulverizes and inverts the furrow slice.

Specification:

Working width (mm) : 100,150,250,300

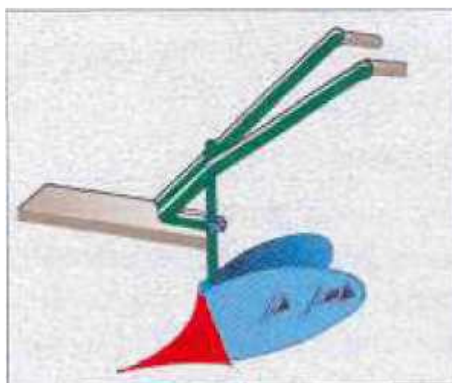
Uses:

Animal drawn mouldboard plough is used for ploughing and inversion of soil

List of Manufacturers: Please refer to Page-222-248 as per following

86,163,257,13,57,124,125,221,43,106,369,371,220,37,46,48,51,52,66,89,92,128,129,134,227,290,287,82,284,283,289,290,299,313,314,315,259,352,359,361,20,22,47,44,61,70,103,161,192,200,235,241,244,266,267,280,281,288,340,354,358,360,38,55,67,188,231,337,344,64,100,108,193,362,3,20,21,25,36,29,56,58,59,112,114,140,147,250,261,278,303,304,362.

Bullock Drawn Ridger



Features:

The ridger plough consists of single share and double mould board attached to a short (steel) or long beams (wooden). Two handles are provided to balance the ridger during operation. During operation the share cuts furrow slice and pulverizes the soil, which moves on to the mouldboard and is inverted. During the onward movement, a furrow is formed and ridges get formed in its return pass. The point of the ridger can be replaced after it is worn out. In certain designs, the width of ridges can also be adjusted.

Specifications:

Wing width (mm)	690
Length (from share point to wing) (mm)	780
Weight (kg)	25

Uses:

It is used for making ridges and furrows for potato and sugarcane planting and making field channels for irrigation.

List of Manufacturers: Please refer to Page-222-248 as per following

13,220,48,259,287,282,289,301,34,,53,111,188,230,265,357,9,210,233,327,213,242,328,353,23,8
8,153,191,209,16,45,77,318,319,90,143,8,101,118,120,139

Power Tiller



Sr. No	Parameter	Observation
(i)	Specifications	
	Type	: Horizontal 4 stroke Single cylinder Water cooled Diesel engine.
	Combustion chamber	: Direct Injection (DI)
	Displacement	:500 to 650 cc
	Max. Torque	: 3 to 5 Kg-m
	Max.HP	: 8-15hp
	Governor System	: Mechanical Centrifugal Type
	Cooling System	: Condenser Type Thermo Siphon cooling System
	Dry Weight	: 100 to 140 Kgs
	Fuel Tank Capacity	: 8 to 11 lts
(ii)	TILLER	
	Type	: Side drive rotary transmission
	Forward	: 6 Speeds
	Reverse	: 2 Speeds
	Rotary	: 2 Speeds (Optional 4 Speeds)
	Clutch	: Multiple Plate, Dry disc type
	Brake	: Hand operated internal expanding metallic Shoe Type.
	Weight	: 280 Kgs.

List of Manufacturers: Please refer to Page-222-248 as per following

:175,170,174,171,332,189,346,117,54,81,312,308,294

Improved Bakhar



Features:

The improved bakhar consists of a frame made of mild steel angle section in which a V -shaped blade is attached by means of fasteners. Behind the blade a roller made of 150mm diameter Mild Steel pipe is provided to crush soil clods. The frame also supports a handle by which the operator controls the implement. The unit is suitable for seedbed preparation in black soil. This has a modified V blade replacing conventional curved blade for reduced draft. A pair of bullocks is used for pulling the implement.

Specifications:

Overall Dimensions

- Length (mm)	: 1220
- Width (mm)	: 850
- Height (mm)	: 650
Weight (Kg)	: 45
Working Width (mm)	: 500
Working Depth (mm)	: 60
Operating Speed (km/h)	: 2.0 – 3.0
Field Capacity (ha/h)	: 0.062 – 0.075
Field Efficiency (%)	: 70
Draft (N)	: 450 - 550
Labour Requirement (Man-h/ha)	: 15

Uses:

It is used for seedbed preparation in black soil.

Bullock Drawn Disc Harrow



Features:

The harrow consists of a frame and shafts on which discs are mounted. The shafts are held in bearings for smooth rotation of discs. The shafts are called gangs on which discs are arranged and equally spaced with the help of spools. Single gang and double gang disc harrows are equally popular and operated using a pair of animals. The discs are fabricated from carbon steels and the cutting edges are hardened. The harrow is provided with an operator's seat and also has a transport wheel which aids in easy transportation. The operator's seat enables the operator to ride instead of walking, which helps in deeper penetration and reduces drudgery.

Specifications:

Number of discs	: 4-6-8
Disc diameter (mm)	: 400-450
Number of gangs	: 1-2
Width of cut (mm)	: 800-1200
Depth of cut (mm)	: 50-120
Capacity (ha/day)	: 1.5-1.75 (8 hrs)
Weight (kg)	: 80-120
Power requirement	: Pair of bullock

Uses:

It is used for seedbed preparation, cutting and burying of grass and weeds.

List of Manufacturers: Please refer to Page-222-248 as per following

3, 59, 109, 112, 307

Blade Harrow



Features:

The implement consists of a blade, blade holding prongs, wooden body and a wooden beam. The blade is attached to the *bakhizr* frame prongs with the help of rings, which are hammered into place. It cuts a thin slice of soil and removes the weeds etc and requires a pair of bullocks to pull the implement. The V-shape of the blade has a self-cleaning advantage, which prevents adherence of weeds and its roots, thus enabling speedier operation and improving the uniformity of cut as compared to the straight bladed version

Specifications:

Cutting width of blade (mm)	: 500-600
Shape of blade	: Straight or V shape
Weight of blade (kg)	: 4-5
Weight of the implement (kg)	: 25-30
Working capacity (ha/day)	: 0.5-0.6

Uses:

It is used for the primary tillage operations.

List of Manufacturers: Please refer to Page-222-248 as per following

46,129,134,259,287,282,284,283,289,313,361,309,23,36,88,140,147,152,153,304

Animal Drawn Patela Harrow



Features:

The animal drawn patela harrow consists of a heavy batten made of Sal wood having 1500mm length and 100mm thickness on which a Mild Steel angle frame is fixed by means of screws. The frame carries a bar to which curved and pointed hooks are attached. The bar can be raised or lowered by means of the lever having a slotted sector to lock its position. Some models may be up to 2000mm in length. It is secondary tillage equipment for clod crushing, stubble or trash collection, levelling and smoothing of land surface before seeding.

Specifications:

Overall Dimensions

- Length (mm)	: 1500
- Width (mm)	: 230
- Height (mm)	: 100
Weight	: 65
Working width (mm)	: 1500 / 2000
Working depth (mm)	: 60
Draft (N)	: 600
Operating speed (km/h)	: 2.5
Field capacity (ha/h)	: 0.3
Field efficiency (%)	: 70
Labour requirement (man-h/ha)	: 3-4

Uses:

It is secondary tillage equipment and used for breaking of clods, collection of stubble or trash and levelling of the field surface before the application of seedlings.

List of Manufacturers: Please refer to Page-222-248 as per following

: 63

Bullock Drawn Bund Former



Features

The implement consists of two blades, flat iron frame bent at an angle a handle attached to the frame with tie bars and wooden beam. The operator's handle is made of wood for providing better grip and convenience in operation and attached to the frame with the help of suitable brackets. The frame is bent at an angle and has holes for adjusting the space between the blades. The profile of blades is made to a shape so that bund formed is trapezoidal and remains stable. The blades are attached to the frame with fasteners. For operation, a pair of bullock pulls the implement; the blades gather the loose soil and accumulate it in the form of bund.

Specifications

Size (mm)	: 750-1050
Size of bunds	: Adjustable
Capacity (ha/day)	: 3-4
Power requirement	: A pair of bullocks
Weight (kg)	: 25-30

Uses

It is used for making bunds for irrigation purpose.

List of Manufacturers: Please refer to Page-222-248 as per following

:23

Power Tiller Mounted Terracer cum Leveller



General Information :

The unit consists of 1.0 m wide curved mild steel blade with a steel cutting edge at the bottom. It is attached to the front of the power tiller with the help of a mounting plate. Two solid side support arms made of 25 x 12.5 mm mild steel flat holds the unit rigidly during the operation. The lifting of the blade can be made by tail wheel adjustment of the rotary tiller while keeping the tilt angle constant. Two side guards are provided to avoid spilling of soil on both sides of the blade. Bottom skids made of 2 mm mild steel sheet are provided below the blade for maintaining uniform load.

Function: For land leveling, terracing and bund formi

Specification:

- i. Type : Mounted implement
- ii. Power requirement : 8 to 10 hp power tiller
- iii. Overall dimensions : 1000 x 780 x 580 mm
- iv. Weight : 35 kg
- v. Capacity : 0.08 m³ of soil
- Cost of the unit : Rs. 4,000/-

Salient features

: Simple in design, construction and ease of operation and transport Efficient for land levelling with a transportation efficiency of 86.6 per cent Cost of moving 1 m³ of soil to 1 m distance is Rs.3.30. Cost of bund forming is Rs.17.75/m³ which is comparable with the manual bunding.

List of Manufacturers: Please refer to Page-222-248 as per following

: 68

Animal Drawn Puddler



Features

The animal drawn puddler consists of tubular steel section main frame on which other components are mounted, mild steel sheet leveller for levelling the puddled soil simultaneously, operator's seat which helps in increasing the depth of puddling to the required depth by operator's weight, a steel beam for pulling the puddler by a pair of animals, three number of concentric circular wheels used for transporting and also help in puddling the soil. The wheels are mounted on the axle, which is connected to the hitching frame. Mild steel angle sections in the particular geometry are welded to the wheels for carrying out puddling operation. For operation, the puddler is transported to the field, which has been flooded with water. As the animals move forward, the wheels start revolving and angles mounted on the wheels cut the soil and weeds and puddling takes place. For transplanting of paddy with rice transplanter field should be properly levelled. A leveller mounted behind the puddler accomplishes task of levelling. The beam of the puddler is hitched to the yoke of the animals and adjusted according to their size. The puddler is suitable for shallow puddling. With the puddler a higher field capacity and better puddling index can be achieved over the traditional puddling methods, and results in reduced cost of operation in addition to quality output.

Specifications

Overall dimensions

Length (mm)	: 1020
Width (mm)	: 1304
Height (mm)	: 1101

Performance

Working width (mm)	: 1140
Working depth (mm)	: 100
Pull (N)	: 650
Speed (km/hr)	: 1.35
Field capacity (ha/hr)	: 0.10
Field efficiency (%)	: 65

Uses

The animal drawn puddler is used for shallow puddling and levelling of puddled soil and also to uproot the weeds.

List of Manufacturers: Please refer to Page-222-248 as per following

: 239

Manual Paddy Transplanter



Function: For transplanting mat type paddy seedlings. Suitable for all transplanted type paddy varieties.

Specification:

- i. **Type** : Manually operated
- ii. **Power requirement** : One operator and one labour to transport mat seedlings
- iii. **Overall dimensions** : 1230 x 1250 x 835 mm
- iv. **Weight** : 17 kg
- v. **Capacity** : 0.25 ha / day

General Information :

The machine consists of a seedling tray, forks, handle and skids. By pressing the handle, the forks pick-up the seedlings and plant them in 6 rows. For every stroke of the handle the seedling tray moves side wards for uniform picking of seedlings by the forks. The operator has to pull the machine while punching the handle at the desired spacing. The Row to row spacing is 200 mm.

Cost of the unit : Rs. 5,000/-

Salient features : Planting can be done in 6 rows at a time.

List of Manufacturers: Please refer to Page-222-248 as per following

: 348, 353, 349, 254, 119, 211, 155, 255, 338

Paddy cum Daincha Seeder



Function: It sows paddy in 3 rows and green manure in 3 rows simultaneously.

Specification:

- i. Type : Manually operated
- ii. Power requirement : One operator and one labour to transport mat seedlings
- iii. Overall dimensions: 1650 x 1600 x 690 mm
- iv. Weight : 15 kg
- v. Capacity : 0.6 -0.8 ha / day

General Information : The seeder has two drum hoppers, two skids, a ground wheel and a handle. Paddy seed rate can be adjusted from 72 - 75 kg per ha. The seeder simultaneously sows pre germinated paddy seeds and daincha seeds in alternate rows and puddled soil. The advantage of this seeder is avoidance of separate cultivation of green manure crop.

Cost of the unit : Rs. 4,250/-

Salient features : Uniformity in seed sowing and plant population Reduction in seed rate and the cost of thinning is reduced Hill dropping of seeds is achieved and continuous drilling is eliminated. Growth of competitive weeds is checked due to green manure crop.

List of Manufacturers: Please refer to Page-222-248 as per following

: 154,240

Rice Transplanter

(Self propelled- walking on)



Sr. No	Parameter	Observation
(i)	Specifications	
	Type	: 4-6 row , self propelled , walking on
	Size of transplanter ,mm	: 4 x 30
	Engine Type	: Three cylinder, four stroke , water cooled, direct injection, Diesel Engine.
	Cylinder	
(ii)	Capacity cc	: 898
	Bore/stroke (mm)	: 72.0/73.6
	No. of cylinder	: three
	Field performance data	
	Avg . speed	: 2.15 to 2.49 Kmph
	Avg. Area	: 0.15-0.21 ha/hr
	Time required	:1.43 -2.55hr/ha
(iii)	Fuel consumption l/hr	: 0.70-0.82
	l/ha	: 3.81-5.48

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture : 348, 353,349,254,119,211,155,350,33

Rice Transplanter



Specification

Engine Model	: 170F Single Cylinder Air Cooled Diesel
Rated Power	: 2.94 Kw
Rated Speed	: 2600 rpm
Weight	: 305 Kg
Overall Dimensions(L X W X H)	: 2500 X 2131 X 1300
Row Number	: 8
Row Spacing	: 238mm
Distance Between Hills	: 140~170 (Standard), 100~120, 120~140, 170~200, 200~230mm (Optional)
Planting Speed	: 0.44~0.54 mt/second
Road Travelling Speed	: 8.2 km/hr

Travelling Mechanism

Type	: Single Wheel Driven - Steel Wheel in Paddy Fields or Rubber Tyre on land
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Planting Mechanism

Type	: Separate Crank Shaft & Connecting Rod System with Seedling Pusher
Growing density of seedlings	: 34~42 hills/m ² (Depending on hill to hill Distance)
Number of Seedlings per hill	: 3~8 (Adjustable according to density and Thickness of seedlings)
Width of Seedling Mat	: 220mm
Planting Depth	: 0~60mm (Adjustable)
Capacity	: 1300-2000m ² /hr

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture : 368,148

Manual Rice Transplanter



Features:

The manual rice transplanter consists of floats made of marine plywood, seedling tray that accepts the mat type nursery, a tray indexing mechanism and pickers for planting seedlings. When the operator pulls the machine and operates the handle, the picker, six in number, gathers two or three seedlings and place them in the puddled soil. The row to row distance can be maintained at 200 mm. It consists of handle, picker assembly, seedling tray, tray indexing mechanism, mainframe, base frame, seedling pushing lever, feeder link assembly, and wooden skid and pivot arm assembly.

Specifications:

Overall Dimensions

- Length (mm)	: 1460
- Width (mm)	: 1330
- Height (mm)	: 530
Weight (kg)	: 20
Row spacing (mm)	: 200
Working width (mm)	: 1200
Working depth (mm)	: 20-30
Operating speed (km/h)	: 0.25 – 0.70
Field efficiency (%)	: 55-60
Plants per hill	: 2-5
Draft (N)	: 120-180
Field capacity (ha/h)	: 0.04-0.05
Labour requirement (man-h/ha)	: 40-50

Uses:

It is used for transplanting mat type rice seedlings in puddled soil in six rows.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 63

Battery operated portable wetland weeder



Function:For weeding in SRI field.

Specification:

i. Type : Manual operated

ii. Power requirement : 8 to10 hp Power tiller

iii. Capacity : 0.2 – 0.3 ha/day

Cost of the unit : Rs.8, 000/-

Salient features : Easy to operate compared to cono weeder

Operated without experiencing any drudgery

Weeding efficiency: 95%

Cost of operation: Rs.625/ha

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 68

Power Weeder



Specification:

Engine type	: 2 stroke, single cylinder, Petrol engine Forced air Cooled
Engine Capacity	: 49.8 cc
Carburetor	: Diaphragm type
Ignition system	: TCI Solid state ignition
Max. Output Power (In Kw./HP /rpm)	: 1.9 Kw/2.54 HP / 10000
Max. Torque	: 1.8 N.m.
Fuel tank capacity	: 1000 ml.
Fuel consumption	: 75 minutes / liter
Starting system	: Recoil starter
Handle	: Not adjustable
Working Depth	: 35 to 65 mm (1 ½" to 2 ½")
Working Width	: 300 mm.
Weight	: 15 Kg.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture :232

Power Weeder



Specification:

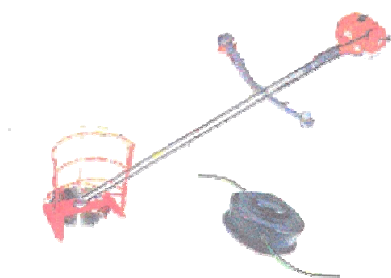
Petrol engine	: gx200, 6. 5 hp (honda)
Diesel engine	: 4-6 hp (air cool)
Starting system	: recoil
Gears	: 3 forward & 2 reverse
Gear box	: alluminium body
P. T. O.	: 990 rpm
Wheel size (inch)	: 4. 00x8
Width of rotavator (cm)	: 46
Over all weight (k. G.)	: 94

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture	: 232
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Paddy Cum Weeds Cutter

(Engine Drive single person Operated)



Make & Model : Paddy cum weeds Cutter

Specification

Name of machine : Paddy cum weeds cutter
Type of machine : Engine drive single person operated.
Type of crop recommended : paddy
Type of weeds / brush recommended: Any type of weeds / brush by changing cutting attachment.

Prime mover:

Type : single cylinder, two stroke, air cooled, petrol Engine
Maximum horse power (KW) : 1.40-1.80 KW
Capacity of engine : 40 -50 cc
Bore/ stroke (mm) : 40/30
Back up torque : 10.5 %
S.F.C : 639 g/KwH

Fuel consumption:

Paddy harvesting : 0.87 to 0.96 lit/hour
Weeds harvesting : 0.87 to 0.93 lit/hr

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture : 99, 232, 80, 351, 256, 252

Rotary weeder



Make & Model : Paddy cum weeds Cutter

Specification

Prime Mover

Type : 4 stroke (overhead valve), air cooled engine, single cylinder petrol Engine
Power rating (Kw) : 1.6
Engine speed : --
Rated : 4925

Cylinder:

Bore/Stroke : 41.8/36
Capacity (cc) : 40 -50

Engine performance Test

Maximum power : 1.56 Kw

Field performance Test

Avg. depth of cut (cm) : 2.8 to 5.7
Avg. width of cut (cm) : 37 to 43.6
Area covered (ha/hr) : 0.036 to 0.069
Fuel consumption
- l/hr : 0.31 to 0.38
- l/ha : 4.50 to 9.77
Back-up torque : 10.3 %

Rotary Power Weeder



Specification

Sr.No	Parameter	Observation
(i)	Specifications	
	Type	: Single cylinder, four stroke, air cooled, Direct injection Diesel engine.
	Nominal Speed (km/h)	: 2.18
	Track width (mm)	: Max. 708, Min. 618
	No. of wheel	: One
	Dia. of wheel (mm)	: 143
	Size of shaft (mm)	: 580 x 30.78
	Dia. of rotor (mm)	: 450
	Effective cut of width (mm)	: 360
	Dia. of flange (mm)	: 235
	Thickness (mm)	: 4.55
	Distance between flanges (mm)	:
	- LHS to center	: 130
	- Centre to LHS	: 117
	Sprocket dia (mm)	: 157.6
	Root dia. (mm)	: 141.2
	No. Of Teeth	: 30
	Pitch of teeth (mm)	: 16.8
	Depth of teeth (mm)	: 8.00
	Overall dimensions	:
	Length (mm)	: 2000
	Width (mm)	: 700
	Height (mm)	: 1000
	Weights (kgs)	: 47
(ii)	Engine	
	No.of cylinders	: One
	Cubic capacity (cc)	: 325
	Rated engine speed (rpm)	: 1500

Cono Weeder



Features

The weeder consists of two rotors, float, frame and handle. The rotors are cone frustum in shape, smooth and serrated strips are welded on the surface along its length. The rotors are mounted in tandem with opposite orientation. The float, rotors and handle are joined to the frame. The float controls working depth and does not allow rotor assembly to sink in the puddle. The cono weeder is operated by pushing action. The orientation of rotors create a back and forth movement in the top 3 cm of soil.

Specifications

Width (mm)	: 370
Height (mm)	: 1400
Type	: Manually operated
Weight (kg)	: 5 to 6
Number of rotors	: 2
Capacity (ha/day)	: 0.18

Uses

The cono weeder is used to remove weeds between rows of paddy crop efficiently. It is easy to operate, and does not sink in the puddle.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 63

Garuda Paddy Power Weeder



Specification

Model	: 3PT250
Engine	: P H25, 1.75hp
Overall Dimensions (mm)	: 1470 x 735 x 830
Fuel	: Petrol (with 2T oil)
Weight (kgs)	: 17
Rotavator	: Chain Drive, Centre Drive
Speed	: 300
No. Of Blades	: 8
Weeding Width	: 150(STD)
Row spacing	: 250
Weeding kit	: 120, 180
Accessories	: -
Suitable for	: 200, 300 (ROW)

Features

- Low Maintenance & Low Weight - 17 Kg
- Adjustable row spacing and quick land coverage
- Suitable for 15, 30 and 45th days of transplantation.
- Suitable for Machine Transplantation (SRI Method) and Manual planting in rows.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 2

Paddy Weeder



Features:

This paddy weeder is essential for those farmers who grew paddy under Japanese method. To use this implement it is necessary that paddy is planted in rows and there should be at least 2” to 3” of water level in the field for the implement to work satisfactorily. It removes weeds, buries them deep aerates the soil, prunes the roots and generally encourages tiller growth.

Our Japanese Paddy Weeder is a simple but strongly built implement. The rotary tines are arranged radially on the axle. The weeder when pushed, moves on the rotating tines, churns the soil and lifts the weed. It works easily and single person can cover ½ to 1 acre in a day.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 219

Battery Operated Low Volume Sprayer



Function: For spraying chemicals on crops like paddy, groundnut, pulses and vegetables. It requires 50 liters of water per hectare.

Specification:

- i. Type : Knapsack
- ii. Power requirement : 6 V rechargeable batteries
- iii. Overall dimensions : 380 x 250 x 725 mm
- iv. Weight : 17 kg with pesticide
- v. Capacity : 1.5 ha / day

General Information : A 10 liter pesticide tank and a 6 volt rechargeable battery are mounted on a suitable frame which is carried on the back of the operator. The chemical is taken from the tank to the spinning disc fitted with the direct current micro motor. A cut-off valve is provided to regulate the flow. The weight of the modified battery sprayer is about 17kg with pesticide. The pesticide application rate of the sprayer is 50 liters per hectare.

Cost of the unit : 1,500/-

Salient features : This sprayer is suitable for any crop like paddy groundnut, pulses and vegetables
repairs and maintenance problems are less reduced water requirement

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 225,215,260,185,82,91,68

Power-Sprayer



Technical specification

Function	: For Spray in Diff. Crops & Orchards
Coverage	: 1 Acre / Hour
Tank Cap.	: 250 Liters
Max. Working Pressure	: 400 PSI
Length of Delivery Hose	: 100 Meters

Special Features:

- Portable, Compact and Light in weight.
- Equipped with 100 mtr. Long Delivery Hose and Spray Gun.
- Reel Attachment for easy Winding and Unwinding of delivery hose.
- Light Weight Tank made of LDPE Plastic with capacity of 250 Ltr.
- Tiplax Pump with Stainless Steel Piston and Oil Bath Lubrication.
- **List of Manufacturers: Please refer to Page-222-248 as per following**

Manufacturer: 232, 31

Battery operated Padgilwar Knapsack sprayer



Specification

Type : Rechargeable battery operated sprayer

Tank capacity : 15 litre

Pump discharge : 560ml/min

Length of lance : 530mm

Nozzle type : Fixed, hollow cone type

Spray angle of nozzle : 88 deg

Discharge rate of nozzle : 685 ml/min

List of Manufacturers: Please refer to Page-222-248 as per following

Manufactur : 178

Broadcaster



Function : To broadcast seeds and fertilizers.

Specification:

i. Type : Manually operated

ii. Power requirement : One labour

iii. Overall dimensions : 360 x 510 x 420 mm

iv. Weight : 3.6 kg

v. Capacity : 4 ha / day

General Information : The centrifugal type unit that is hung in front of the operator is used to broadcast seeds and granular fertilizers by rotating the handle. The material is put in the hopper in batches of 3 to 5 kg and the operator has to walk while rotating the handle. The material is spread over a 3.5 to 10 m width.

Cost of the unit : Rs. 3,000/-

Salient features : Suitable for broad casting small seeds like sesame, sorghum, etc.

Large area can be sown in less time.

Uniform distribution of seeds.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 68

Hand Rotary Duster



Features:

The hand rotary duster is available in two models, shoulder mounted and belly mounted. It is a common type of duster being used by the farmers. The duster consists of a hopper, fan/blower, rigid/flexible discharge pipe, reduction gearbox, rotating handle, shoulder straps, and metering mechanism. The hopper is either made of plastic or aluminum. The hopper made from mild steel sheet is coated with anti-corrosive material for longer life. The duster has mechanical agitator connected to the gearbox placed in the hopper, which chums the chemical and prevent clogging of the outlet. The adjustable orifice plate mounted below the hopper outlet controls the application rate. The fan/blower is enclosed in the casing and is rotated with the handle through gearbox. For operation, the hopper is filled 1/2 to 3/4th of the capacity of the hopper. This is mounted on the shoulder/belly with the help of adjustable straps. The discharge pipe fitted with spoon type deflector is directed towards the target continuously rotating the handle. The chemical in dust/powder form drops from the hopper in the discharge pipe having an air stream created by the blower. These dust particles emerging in, the form of cloud from the discharge pipe is carried to the plant where these settle on the leaves, stems and other parts.

Specifications

Overall length (mm)	: 280
Overall width (mm)	: 330
Overall height (mm)	: 330
Weight (kg)	: 3.5
Hopper capacity (l)	: 4-5
Field capacity (ha/ day)	: 0.6 (for field crops)

Uses

For control of pests and diseases by use of chemicals in the dust forms in nursery, vegetable gardens, field crops, tea and coffee plantations, green houses, glasshouses and godowns.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 335,63,53,91,116,366

Self-Propelled Vertical Conveyor Reaper



Function : For harvesting paddy.

Specification:

i. Type : Self-propelled engine

ii. Power requirement : 3.0hp

iii. Overall dimensions : 2200 x 950 x 1100

iv. Capacity : 0.125 ha h-1

General Information : Vertical conveyor reaper (0.75 m) of TNAU is light in weight and hence shifting the reaper from one field to another is easy. Operating the reaper is fatigue free. The total cost of the machine is well within the purchasing power of the small farmers. It is highly cost economical when compared to other paddy harvesters and combine and manual harvesting.

Cost of the unit : Rs.60, 000/-

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 68,57,31,142,2,18,113,136,135,195,367,364,57,181,82,92,268,302,355,47,44,158,159,162,235,324,111,42,100,228,242,358,350,356,90,32

Mini Combine Harvester for Paddy



Function : For harvesting paddy.

Specification:

i. Type : Self-propelled engine

ii. Power requirement : 3.0hp

iii. Overall dimensions : 2200 x 950 x 1100

iv. Capacity : 1 ha / day

Cost of the unit : 3, 00,000

Cost of operation : Rs.1300 / ha

Silent features : Suitable for small and marginal farmers.

Can be easily transported to inaccessible fields

Saving in cost: 80%

Saving in labour: 91%

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 68

Self-Propelled Reaper



Specification

Length	: 94.5"
Width	: 45.3"
Height	: 43.3"
Weight	: 180 Kg.
Engine	
Fuel Cons.	: 1.25 Ltr/Hour (Approx)
Speed	: 3 Km./Hour
	: 0.5 Acre/Hour (Approx)
Area Covered	Enables Reaping Work of 3 feet width Wheat, Rice & Soyabean

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture : 57

Vertical Conveyor Reaper



Specification:

Dimensions (l x w x h), (mm): 2570 x 1850 x 1250

Weight (kg) : 85

Number crop dividers : 6

Type of cutting unit : Cutter bar with serrated V-shaped blades

Power source : 8-10 hp

Capacity (ha/h) : 0.20-0.40

Cost (Rs) : 1,00,000

Uses : It is used for harvesting and windrowing of erect rice crop

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 31,182

Reaper Binder



Specification:

Overall dimensions	: 3600×1850×1200 mm
Cutting width	: 1220 mm
Cutting height	: 50 – 70 mm
Rope requirement	: 1 spool/acre
Engine	: 10.2 hp, Air-cooled, Diesel engine.
Fuel consumption	: 1 Lit/hr
Working Capacity	: 0.4 ha/ hr
Cost (Rs)	: 2,50,000
Uses	: Harvesting & binding of grain crops on single operation. It is useful for Wheat, Paddy, Oats, Barley & other grain crops height up to 85 to 110 cm.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer	: 31
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Pedal Operated Thresher



Features

It consists of wire-loop type threshing cylinder, power transmission system, mild steel sheet body and foot pedal. The threshing cylinder consists of wire-loops of 'U' shape embedded in wooden or metallic strips joined to two discs. A shaft carries the threshing cylinder and is connected to the transmission system. The transmission system consists of meshed gears or sprocket-chain mechanism. The larger gear or sprocket is connected to foot pedal/bar with links. The foot pedal/bar is always in raised position. On pressing the pedal the threshing cylinder starts rotating. For continuous rotation of the cylinder, the pedal is lowered and raised repeatedly. For operation, paddy bundle is held in hands and earhead portion of the crop is placed on the rotating cylinder. The wire-loops hit the earheads and grain get detached from the rest of the crop.

Specifications

Loop wire diameter (mm)	: 4	
Number of wire loops	: 144	
Number of wire loop strips	: 12	
Transmission system	: Pedal C rank mechanism with 1:4 gear ratio	
Power source	: One person	Dimensions (lxwxh) (mm) : 1250 x 650 x 630
Cylinder size (mm)	: 400 diameter x 600 length	

Weight (kg)	: 36
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Performance results

Crop	: Rice
Broken grains (per cent)	: Nil
Total grain losses (percent)	: 1.2
Threshing efficiency (per cent)	: 98.8
Output capacity (kg/h)	: 44
Labour requirement (man-h/q)	: 5.0

Uses

It is used for threshing rice crop.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 57

Multicrop Thresher



(i) Specifications

Main Crop	: Paddy
Other crops	: Sunflower, Maize, Jowar, Bajra, Ragi, Wheat etc.
Prime-mover Type	: Four stroke diesel engine/Electric engine
Frame Dimensions (mm)	: 2340 x 860 x 1120
Type of Crop feeding system	: Rectangular
Size of feeding hopper (mm)	: 3360 x 860
Feeding System	:
- Size of platform (mm)	: 30 x 30 x 4.5
- Height of feeding chute from G.L.	: 1760
Threshing Cylinder	:
Type	: Rasp bar, closed
Size of cylinder (mm)	: 735 x 470 ϕ
Size of rasp bar	: 735 x 50 x 22.53
Nominal Dia of cylinder (mm)	: 470
Width of cylinder	: 735
Concave	:
Peripheral length (mm)	: 740
Effective length (mm)	: 720
Peripheral width (mm)	: 580
Effective width (mm)	: 470
Effective area (sq. M)	: 0.338
Concavity (mm)	: 140
No. of sieves	: Three

(ii) Lab. Performance Result

Power requirement	: 4.2 to 5.7 kw/h
Hourly Fuel Consumption	: 1.96 to 1.50 l/h
Cleaning efficiency	: 93.90 % to 95.47 %

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 246,319,320,338,331,2,18,86,113,136,135,195,367,364,14,40,

Paddy Winnowing Fan



Starting system	: Recoil starter
Carburetor type	: Diaphragm
Fuel tank capacity	: 1.2 ltr.
Transmission	: Worm gear reduction
Drill diameter	: 9 to 25 cm (4" to 10")
Net weight (drill excluded)	: 9.2 kg

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture : 232

Power Tiller Operated Axial Flow Pump



Function: To lift water from open water sources

Specification:

- i. Type : Axial flow type
- ii. Power requirement : 8 -10 hp power tiller
- iii. Overall dimensions : 300 x 750 x 620 mm
- iv. Weight : 26 kg
- v. Capacity : 2500 litres per minute at 3.0 m head

General Information : The unit consists of a specially designed axial flow impeller which is secured to a pump shaft and encased inside a 19 cm diameter mild steel discharge tube .The impeller has two mild steel sheet-metal vanes welded to a threaded hub and has an average pitch of 20 degree. The impeller shaft runs in a long nylon bearing housed in mild steel tube which is welded to the pump assembly at an inclination of 30 degree. The pump can be coupled to the power tiller engine pulley through a flexible shaft supported by a frame near the power tiller engine and it is aligned perfectly by fixing the pump in desired position through hinge and adjustable frame. Behind the axial flow impeller is a set of diffusion vanes which serve to straighten the spiral flow from the impeller for improved efficiency.

Cost of the unit : Rs. 10,000/-

Salient features : Highly suitable for lifting water from open water sources
Capacity is 2 to 3 times higher than that of centrifugal pumps for lifts between 1.0 and 3.0 meters and hence high efficiency at lower lifts

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 68

Bund Forming Machine:



Features:

The Bund Former will strengthen the existing bund without damaging the height of the bed by adding on the sideways. This machine is suitable for both dry and wet conditions. The power required to operate this machine is about 40-50hp with 540rpm at PTO. The height of the bund is 25-30 cm.

Manufacture: 8

CENTRIFUGAL PUMP



Specification:

Pump Size: 2.5" x 2.5" & 3" x 2.5"

Discharge: 9 to 49 lps

Head range: 21 to 29 Mtrs

High Head: 3000 to 10000 feet

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 57

Wheat Machinery

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Improved Iron Plough



Function: Dry ploughing in all types of soil. The plough is provided with a mouldboard as an optional attachment for soil inversion.

Specification:

i. Type : Bullock drawn implement

ii. Power requirement : A pair of bullocks

iii. Overall dimensions : 3500 x 250 x 900 mm

iv. Weight : 17 kg

v. Capacity : 0.5 ha / day

General Information : The bullock drawn improved iron plough is made of mild steel except the pole shaft and hence it has longer life. As and when the share wears off, it can be pushed forward. Pole shaft angle and height of handle can be pushed forward. Pole shaft angle and height of handle can be adjusted according to field recruitments. The plough is provided with a mould as an optional attachment for soil inversion

Cost of the unit : Rs. 1,000/-

Salient features : The improved iron plough is suitable for dry ploughing in all types of soil

It can be operated by pair of bullocks

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 86,163,257,13,57,124,125,221,43,106,369,371,220,37,46,48,51,52,66,89,92,128,129,134, 227,290,287,282,284,283,289,290,299,313,314,315,259,352,359,361,20,22,47,44,61,70,103,161,192,200,2 35,241,244,266,267,280,281,288,340,354,358,360,38,55,67,188,231,337,344,64,100,108,193,362,3,20,21, 25,36,29,56,58, 59,112, 114, 140, 147,250, 261,278,303,304,362

Power Tiller



Sr.No	Parameter	Observation
(i)	Specifications	
	Type	: Horizontal 4 stroke Single cylinder Water cooled Diesel engine.
	Combustion chamber	: Indirect Injection (IDI)
	Displacement	: 500 - 700cc
	Max. Torque	: 3.0-5.0kgm/
	Max.HP	: 8-15 hp
	Governor System	: Mechanical Centrifugal Type
	Cooling System	: Condenser Type Thermo Siphon cooling System
	Std. Pulley (DIA)	: 120mm
	Dry Weight	: 119 Kgs
	Fuel Tank Capacity	: 11 lts
(ii)	TILLER	
	Type	: Side drive rotary transmission
	Forward	: 6 Speeds
	Reverse	: 2 Speeds
	Rotary	: 2 Speeds (Optional 4 Speeds)
	Clutch	: Multiple Plate, Dry disc type
	Brake	: Hand operated internal expanding metallic Shoe Type.
	Weight	: 280 Kgs.
(iii)	Performance	
	Tilling Width	: 540 to 800 mm maximum
	No. of tines	: 16
	Tilling Depth	: 80 to 150mm maximum
	Plough Depth	: 220mm maximum
	Over all dimensions (Length * Width * Height)	: 2300 mm x 900 mm x 1210 mm

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture : 175,170,174,171,332,189,346,117,54,81,312,308,294

Improved Bakhar



Features:

The improved bakhar consists of a frame made of mild steel angle section in which a V -shaped blade is attached by means of fasteners. Behind the blade a roller made of 150mm diameter Mild Steel pipe is provided to crush soil clods. The frame also supports a handle by which the operator controls the implement. The unit is suitable for seedbed preparation in black soil. This has a modified V blade replacing conventional curved blade for reduced draft. A pair of bullocks is used for pulling the implement.

Specifications:

Overall Dimensions

- Length (mm)	: 1220
- Width (mm)	: 850
- Height (mm)	: 650
Weight (Kg)	: 45
Working Width (mm)	: 500
Working Depth (mm)	: 60
Operating Speed (km/h)	: 2.0 – 3.0
Field Capacity (ha/h)	: 0.062 – 0.075
Field Efficiency (%)	: 70
Draft (N)	: 450 - 550
Labour Requirement (Man-h/ha)	: 15

Uses:

It is used for seedbed preparation in black soil.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 63

Birsa Animal Drawn Ridger Plough



Features:

It is a ridger plough to perform all functions of country plough with added efficiency and advantages. It is suitable for hilly region of Chota Nagpur region. It saves 9 per cent labour and operation time and 5 per cent cost of operation compared to the conventional method of using country plough. The Birsa ridger plough was found to be better than the country plough in its performance.

Specifications:

Dimensions (l x w x h) (mm)	: 250x150x80
Weight (kg)	: 5 (without beam)

Performance results

Width of cut (mm)	: 156
Depth of cut (mm)	: 108
Operating speed (km/h)	: 2.68
Field capacity (ha/h)	: 0.022
Field efficiency (per cent)	: 63
Draft (N)	: 450
Labour requirement (man-h/ha)	: 46

Uses:

It performs all functions of country plough with added efficiency and advantages.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 63

Bullock Drawn Disc Harrow



Features:

The harrow consists of a frame and shafts on which discs are mounted. The shafts are held in bearings for smooth rotation of discs. The shafts are called gangs on which discs are arranged and equally spaced with the help of spools. Single gang and double gang disc harrows are equally popular and operated using a pair of animals. The discs are fabricated from carbon steels and the cutting edges are hardened. The harrow is provided with an operator's seat and also has a transport wheel which aids in easy transportation. The operator's seat enables the operator to ride instead of walking, which helps in deeper penetration and reduces drudgery.

Specifications:

Number of discs	: 4-6-8
Disc diameter (mm)	: 400-450
Number of gangs	: 1-2
Width of cut (mm)	: 800-1200
Depth of cut (mm)	: 50-120
Capacity (ha/day)	: 1.5-1.75 (8 hrs)
Weight (kg)	: 80-120
Power requirement	: Pair of bullock

Uses:

It is used for seedbed preparation, cutting and burying of grass and weeds.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 3, 59, 109, 112, 307

Animal Drawn Patela Harrow



Features:

The animal drawn patela harrow consists of a heavy batten made of Sal wood having 1500mm length and 100mm thickness on which a Mild Steel angle frame is fixed by means of screws. The frame carries a bar to which curved and pointed hooks are attached. The bar can be raised or lowered by means of the lever having a slotted sector to lock its position. Some models may be up to 2000mm in length. It is secondary tillage

Equipment for clod crushing, stubble or trash collection, levelling and smoothing of land surface before seeding.

Specifications:

Overall Dimensions

- Length (mm)	: 1500
- Width (mm)	: 230
- Height (mm)	: 100
Weight	: 65
Working width (mm)	: 1500 / 2000
Working depth (mm)	: 60
Draft (N)	: 600
Operating speed (km/h)	: 2.5
Field capacity (ha/h)	: 0.3
Field efficiency (%)	: 70
Labour requirement (man-h/ha)	: 3-4

Uses:

It is secondary tillage equipment and used for breaking of clods, collection of stubble or trash and levelling of the field surface before the application of seedlings.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 63

Bullock Drawn Bund Former



Features:

The implement consists of two blades, flat iron frame bent at an angle a handle attached to the frame with tie bars and wooden beam. The operator's handle is made of wood for providing better grip and convenience in operation and attached to the frame with the help of suitable brackets. The frame is bent at an angle and has holes for adjusting the space between the blades. The profile of blades is made to a shape so that bund formed is trapezoidal and remains stable. The blades are attached to the frame with fasteners. For operation, a pair of bullock pulls the implement; the blades gather the loose soil and accumulate it in the form of bund.

Specifications:

Size (mm)	: 750-1050
Size of bunds	: Adjustable
Capacity (ha/day)	: 3-4
Power requirement	: A pair of bullocks
Weight (kg)	: 25-30

Uses:

It is used for making bunds for irrigation purpose.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 63

Power Tiller Mounted Terrace Cum Leveler



Function: For land leveling, terracing and bund forming

Specification:

- i. Type : Mounted implement
- ii. Power requirement : 8 to 10 hp power tiller
- iii. Overall dimensions : 1000 x 780 x 580 mm
- iv. Weight : 35 kg
- v. Capacity : 0.08 m³ of soil

General Information : The unit consists of 1.0 m wide curved mild steel blade with a steel cutting edge at the bottom. It is attached to the front of the power tiller with the help of a mounting plate. Two solid side support arms made of 25 x 12.5 mm mild steel flat holds the unit rigidly during the operation. The lifting of the blade can be made by tail wheel adjustment of the rotary tiller while keeping the tilt angle constant. Two side guards are provided to avoid spilling of soil on both sides of the blade. Bottom skids made of 2 mm mild steel sheet are provided below the blade for maintaining uniform load.

Cost of the unit : Rs. 4,000/-

Salient features : Simple in design, construction and ease of operation and transport

Efficient for land levelling with a transportation efficiency of 86.6 per cent

Cost of moving 1 m³ of soil to 1 m distance is Rs.3.30. Cost of bund forming is

Rs.17.75/m³ which is comparable with the manual bunding.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 68

Bullock Drawn Seed Planter



Function: Line sowing of crops like groundnut, sorghum, cowpea, Bengal gram, green gram, black gram, etc. in three rows simultaneously.

Specification:

- i. Type : Bullock drawn implement
- ii. Power requirement : A pair of bullocks, an operator
- iii. Overall dimensions : 1080 x 1180 x 925 mm
- iv. Weight : 65 kg
- v. Capacity : 1 ha / day

General Information : The unit consists of a simple frame on which a seed box, hitch brackets, handle , clutch mechanism and furrow closer are mounted. The entire units is mounted on two wheels. The furrow opener is similar to country plough in which adjustable/ replaceable share is provided. The provision of cup feed mechanism facilities metering of seeds without breakage. The power to operate the seed metering mechanism is taken from the ground wheel through clutch. The provision of clutch facilitates to stopping the seed dropping at head lands. A square bar is provided at the rear to cover the seeds.

Cost of the unit : Rs. 5,000/-

Salient features : The seed to seed distance in a row can be adjusted.
By changing the size of the cup different crops/ varieties of seed can be sown

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 69,94,144,149,247,76,104,215,249,206,363,97,5,12,107,145,279,291,317,65,211,165,310,307,356,68

Three Row Seed Cum Fertilizer Drill



Features:

It is a standardised animal drawn seed cum fertiliser drill which is suitable for crops like wheat, gram, sorghum, soybean, lentil, pea, sunflower, safflower etc. It is simple, light in weight, and compact in construction for drilling fertiliser and seeds simultaneously especially designed black soil under rain fed condition. It has two gauge wheels, which are useful for maintaining the depth of operation and also for ease in transportation. Box section frame having many holes helps in adjusting the row to row spacing at the desired value. Separate knobs are provided for the seed and fertiliser metering to adjust the rate of application. The fluted roller metering mechanism fitted in the unit, gets the drive from ground drive wheel of 300mm diameter through chain and sprocket. The shoe type furrow openers with non-clogging boot place the seed at desired depth.

Specifications:

Overall Dimensions

- Length (mm)	: 1000
- Width (mm)	: 1000
- Height (mm)	: 780
Weight (kg)	: 50
Draft (N)	: 500
Working width (mm)	: 225-700
Operating speed (km/h)	: 2 -2.5
Field capacity (ha/h)	: 0.10-0.28
Field efficiency (%)	: 65-70
Labour requirement (man-h/ha)	: 4-10

Uses

It is used to drill seeds and fertiliser simultaneously in two rows.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 37,322,245,3,23,36,29,59,88,112,114,123,130,133,153,183,196,209,212,214,237,250,262,269,278,273,274,275,303,304,334,347,362.

Birsa Animal Drawn Seed Drill



Features

It is a bullock drawn implement suitable for sowing paddy, ragi, wheat, linseed, gram, safflower and other small sized seeds. In this machine, seeds are dropped by a rubber agitator and slit hole while the fertilizer is dropped manually using the funnel provided for that purpose. Only the ground wheel drives the agitator for the seeds and a small ridger type furrow opener is used to reduce the draft on the animal. It saves 56 per cent labour and operating time and 25 percent on cost of operation compared to conventional method of sowing behind country plough. It also results in 14 to 27 per cent increase in yield compared to sowing by conventional method.

Specifications:

Dimensions (l x w x h) (mm)	: 850 x 440 x 170
Weight (kg)	: 13.5
No. of rows	: One
Seed metering	: Slit hole and rubber agitator
Fertilizer metering	: Manual dropping
Power transmission	: Agitator is driven by a ground wheel
Furrow opener	: Ridger type
Size of furrow opener (mm)	: 136
Power source	: A pair of bullocks

Performance results:

Crop	Paddy	Ragi
Seed rate (kg/ha)	98	10
Width of coverage (mm)	250	300
Depth of placement (mm)	70	60
Operating speed (km/h)	2.9	2.9
Field capacity (ha/h)	0.035	0.034
Seed damage (per cent)	4	7
Draft (N)	376	369
Labour requirement (man-h/ha)	29	

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 63

Manually Operated Double Wheel Weeder



Features: The double Wheel Weeder is a manually operated weeding machine but with wheels. Easy to operate wheel weeders doesn't require any type of training for operations. Offered with a sophisticated looks, these weeders are known for their functionality that is based on the principle of pull and push operations. Being safe, easy to operate and environment friendly, these Weeders not only remove the tap root but also the fibrous root system, which cause much problem for farmers. We are trading this equipment all over the country to help all types of farmer, willing to increase their yield by killing the weeds that can be a killer to their crops in the field.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 204

Manually Operated Single Wheel Weeder



Features:

The Single Wheel Weeder being manufactured by us is the equipment, which is used for very special purpose when the weeding is required at narrow places or between rows. The blade is thin but very sturdy and tough besides, it is very safe to use and offers zero threat of hurting to the user. Other than the wheel, there is nothing mechanical in this single wheel weeder but, it works wonderfully under the condition where it is put into. This hassle free equipment requires no special maintenance.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 204

Manually Operated Seed Dressing Drum



Features: The Seed Dressing Drum being produced by us is very easy to handle and requires no special technical training to operate it. Besides, it is also very effective and at the same time economical for farmers. The performance of the machine never gets compromised despite its manual operations. The quality manufacturing of the machine helps in proper dressing of the seeds for the benefit of the end user.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 204

Power Tiller Operated Boom Sprayer



Function: Line sowing of crops like groundnut, sorghum, cowpea, Bengal gram, green gram, black gram, etc. in three rows simultaneously.

Specification:

- i. Type : For row crop spraying
- ii. Power requirement : Power tiller mounted
- iii. Overall dimensions : 1550 x 5000 x 1550 mm
- iv. Weight : 12 kg
- v. Capacity : 1 ha / day

General Information : The boom sprayer attachment consists of two aluminum hollow sections (50 x 25 mm) of 4 m length with 16 numbers of nozzles. The nozzles are spaced at 450 mm apart. A reciprocating pump (40 mm x 25 mm) is mounted on the power tiller with the help of a stand. The drive is transmitted from the clutch pulley of the power tiller through v-belt. A 25 mm dia. heavy-duty alkathene suction hose carries the spray chemical from the tank kept in the power tiller trailer to the pump inlet. The delivery line from the outlet of the pump is divided into two lines by means of a two way cock to each of the two aluminum sections. The spray boom with nozzles are carried by two persons with a belly rest and neck belt provisions for easy handling and spraying of chemicals on the crop foliage. A regulator valve with a by-pass line to the tank is also provided in the delivery line to control the excess pressure and discharge rate.

Cost of the unit : Rs. 20,000/-

Salient features : Light in weight and easy handling Suitable for spraying in row crops
Results in 55 per cent saving in cost as compared to knapsack power sprayer

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 68

Battery Operated Low Volume Sprayer



Function: For spraying chemicals on crops like paddy, groundnut, pulses and vegetables. It requires 50 liters of water per hectare.

Specification:

- i. Type : Knapsack
- ii. Power requirement : 6 V rechargeable batteries
- iii. Overall dimensions : 380 x 250 x 725 mm
- iv. Weight : 17 kg with pesticide
- v. Capacity : 1.5 ha / day

General Information : A 10 liter pesticide tank and a 6 volt rechargeable battery are mounted on a suitable frame which is carried on the back of the operator. The chemical is taken from the tank to the spinning disc fitted with the direct current micro motor. A cut-off valve is provided to regulate the flow. The weight of the modified battery sprayer is about 17kg with pesticide. The pesticide application rate of the sprayer is 50 liters per hectare.

Cost of the unit : 1,500/-

Salient features : This sprayer is suitable for any crop like paddy groundnut, pulses and vegetables
Repairs and maintenance problems are less
Reduced water requirement

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 68

Power Sprayer



Specification

Type : Horizontal Triple Plunger

Plunger Bore×Stroke (Φ×mm) : 32×28

Revolution (Rpm)

- Spraying : 700
- Irrigation : 1,200

Suction Capacity (ℓ/min)

- Revolution : 47
- Irrigation : 81

Pressure (kg/cm²)

- Maximum : 40
- Irrigation : 10
- Revolution : 30

Required Output (PS)

- Maximum : 4.5
- Irrigation : 2.5
- Revolution : 3.5

Dimension(L×W×H) (mm) : 450×285×405

Lubricant Oil Capacity (ℓ) : 1.0

Weight (kg) : 24.5

V-Pulley Dia.(mm) : 27(B-2)

Spraying Efficiency (Ha/day) : 8~13

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture : 190

Power-Sprayer



Technical specification:

Function	: For Spray in Diff. Crops & Orchards
Coverage	: 1 Acre / Hour
Tank Cap.	: 250 Liters
Max. Working Pressure	: 400 PSI
Length of Delivery Hose	: 100 Meters

Special Features:

- Portable, Compact and Light in weight.
- Equipped with 100 mtr. long Delivery Hose and Spray Gun.
- Reel Attachment for easy Winding and Unwinding of delivery hose.
- Light Weight Tank made of LDPE Plastic with capacity of 250 Ltr.
- Tiplex Pump with Stainless Steel Piston and Oil Bath Lubrication.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 31, 24

Engine operated power sprayer



Specification

Output capacity (LPM) : 14-22

Prime Mover

- Recommended : Engine 3.5 to 4 Ps , Motor 1.5 to 2 H.P

Prime Mover used : Single cylinder 4 stroke petrol start kerosene run engine.

Power rating (h.p) : 3.1 h.p at 3600-400 rpm

Capacity (cc) :197

Bore/stroke (mm) :67/56

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 179

Battery operated Padgilwar Knapsack sprayer



Specification:

Type	: Rechargeable battery operated sprayer
Tank capacity	: 15 liter
Pump discharge	: 560ml/min
Length of lance	: 530mm
Nozzle type	: Fixed, hollow cone type
Spray angle of nozzle	: 88 deg
Discharge rate of nozzle	: 685 ml/min

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture

:85,257,356,143,321,10,356,57,215,260,185,186,19,82,110,119,128,148,252,317,335,352,359,44,17,34,49,
53,91,93,99,111,146,208,222,223,224,225,251,291,336,370,11,26,95,116,217,323, 39,
50,156,329,356,6,7,87

Broadcaster



Function: To broadcast seeds and fertilizers.

Specification:

- i. Type : Manually operated
- ii. Power requirement : One labour
- iii. Overall dimensions : 360 x 510 x 420 mm
- iv. Weight : 3.6 kg
- v. Capacity : 4 ha / day

General Information : The centrifugal type unit that is hung in front of the operator is used to broadcast seeds

and granular fertilizers by rotating the handle. The material is put in the hopper in batches of 3 to 5 kg and the operator has to walk while rotating the handle. The material

is spread over a 3.5 to 10 m width.

Cost of the unit : Rs. 3,000/-

Salient features : Suitable for broad casting small seeds like sesame, sorghum, etc.

Large area can be sown in less time.

Uniform distribution of seeds.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 68

Hand Rotary Duster



Features

The hand rotary duster is available in two models, shoulder mounted and belly mounted. It is a common type of duster being used by the farmers. The duster consists of a hopper, fan/blower, rigid/flexible discharge pipe, reduction gearbox, rotating handle, shoulder straps, and metering mechanism. The hopper is either made of plastic or aluminum. The hopper made from mild steel sheet is coated with anti-corrosive material for longer life. The duster has mechanical agitator connected to the gearbox placed in the hopper, which chums the chemical and prevent clogging of the outlet. The adjustable orifice plate mounted below the hopper outlet controls the application rate. The fan/blower is enclosed in the casing and is rotated with the handle through gearbox. For operation, the hopper is filled 1/2 to 3/4th of the capacity of the hopper. This is mounted on the shoulder/belly with the help of adjustable straps. The discharge pipe fitted with spoon type deflector is directed towards the target continuously rotating the handle. The chemical in dust/powder form drops from the hopper in the discharge pipe having an air stream created by the blower. These dust particles emerging in, the form of cloud from the discharge pipe is carried to the plant where these settle on the leaves, stems and other parts.

Specifications

Overall length (mm)	: 280
Overall width (mm)	: 330
Overall height (mm)	: 330
Weight (kg)	: 3.5
Hopper capacity (l)	: 5
Field capacity (ha/ day)	: 0.6 (for field crops)

Uses

For control of pests and diseases by use of chemicals in the dust forms in nursery, vegetable gardens, field crops, tea and coffee plantations, green houses, glasshouses and godowns.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 335, 63, 53, 91, 116, 366

Power Reaper



Specification:

(i) Engine

Power : 4-6HP /
Type : Diesel Start
Displacement : 300-400 cc
Fuel Tank Capacity : 4.5 Liter
Overall Dimensions

- Length : 2460 mm
- Width : 1400 mm
- Height : 1100 mm

Weight : 230 Kg

(ii) Travel

Travel Speeds : 3.0 kmph
Type of Wheel : Rubber Tyre
Width of Wheel : 500 x 12

(iii) Reaping (Cutting)

Cutting Device : Cutter Bar
Crop Release : 40-50 cm
Cutting width : 1200 mm

(iv) Reaping Efficiency

Working Capacity : 5 to 6 Acres / Day
Efficiency : 600 - 1350mm
Cutting Height : Right Side

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 204, 11

Vertical Conveyor Reaper



Specification:

Dimensions (l x w x h), (mm) : 2570 x 1850 x 1250

Weight (kg) : 85

Number crop dividers : 6

Type of cutting unit : Cutter bar with serrated V-shaped blades

Power source : 8-10 hp

Capacity (ha/h) : 0.20-0.40

Cost (Rs) : 1, 00,000

Uses : It is used for harvesting and windrowing of erect rice crop

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 57, 31, 142, 2, 18, 113, 136, 135, 195, 367, 364, 157, 181, 82, 92, 268, 293, 355, 47, 44, 158, 159, 162, 235, 324, 111, 42, 100, 228, 242, 338, 350, 356, 90, 32.

Reaper Binder



Specification:

Overall dimensions : 3600×1850×1200 mm

Cutting width : 1220 mm

Cutting height : 50 – 70 mm

Rope requirement : 1 spool/acre

Engine : 10.2 hp, Air-cooled, Diesel engine.

Fuel consumption : 1 Lit/hr

Working Capacity : 0.4 ha/ hr

Cost (Rs) : 2, 50,000

Uses : Harvesting & binding of grain crops on single operation. It is useful for Wheat, Paddy, Oats, Barley & other grain crops height up to 85 to 110 cm.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 31

Fodder Harvester



Specification

Sr. No	Parameter	Observation	Specifications
	Type	: Self propelled Fodder harvester	
	Nominal Size (mm)	:	1440
	Track width (mm)	:	1030
	Wheel base (mm)	:	1400
(i)	Engine		
	No. of cylinders	:	One
	Cubic capacity (cc)	:	454
	Rated engine speed (rpm)	:	3000
(ii)	Lab. Performance Result		
	Specific Fuel Consumption, g/kwh (g/hph)	:	295(217)
	Max. Power	:	7.38 kw (10.03Ps)
	Area Covered, Barley harvesting	:	0.255 to 0.432 ha/h
	Berseem harvesting	:	0.197 to 0.287 ha/h
	Fuel consumption per unit area	:	2.11 to 4.29 l/ha.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 31

Pedal Operated Thresher



Features

It consists of wire-loop type threshing cylinder, power transmission system, mild steel sheet body and foot pedal. The threshing cylinder consists of wire-loops of 'U' shape embedded in wooden or metallic strips joined to two discs. A shaft carries the threshing cylinder and is connected to the transmission system. The transmission system consists of meshed gears or sprocket-chain mechanism. The larger gear or sprocket is connected to foot pedal/bar with links. The foot pedal/bar is always in raised position. On pressing the pedal the threshing cylinder starts rotating. For continuous rotation of the cylinder, the pedal is lowered and raised repeatedly. For operation, paddy bundle is held in hands and earhead portion of the crop is placed on the rotating cylinder. The wire-loops hit the earheads and grain get detached from the rest of the crop.

Specifications

Dimensions (l x w x h) (mm)	: 1250 x 650 x 630
Cylinder size (mm)	: 400 diameter x 600 length
Loop wire diameter (mm)	: 4
Number of wire loops	: 144
Number of wire loop strips	: 12
Transmission system	: Pedal C rank mechanism with 1:4 gear ratio
Power source	: One person
Weight (kg)	: 36

Performance results

Crop	: Rice
Broken grains (per cent)	: Nil
Total grain losses (percent)	: 1.2
Threshing efficiency (per cent)	: 98.8
Output capacity (kg/h)	: 44
Labour requirement (man-h/q)	: 5.0

Uses

It is used for threshing rice crop.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer	: 63
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Multicrop Thresher



Main Crop	: Paddy
Other crops	: Sunflower, Maize, Jowar, Bajra, Ragi, Wheat etc.
Prime-mover Type	: Four stroke diesel engine/Electric engine
Frame Dimensions (mm)	: 2340 x 860 x 1120
Type of Crop feeding system	: Rectangular
Size of feeding hopper (mm)	: 3360 x 860
Feeding System	:
- Size of platform (mm)	: 30 x 30 x 4.5
- Height of feeding chute from G.L.	: 1760
Threshing Cylinder	:
Type	: Rasp bar, closed
Size of cylinder (mm)	: 735 x 470 ϕ
Size of rasp bar	: 735 x 50 x 22.53
Nominal Dia of cylinder (mm)	: 470
Width of cylinder	: 735
Main shaft	:
Material & size (mm)	: MS bar, 1370 x 42.3 ϕ
No. type of bearings on shaft	: Two, Ball bearings
Concave	:
Peripheral length (mm)	: 740
Effective length (mm)	: 720
Peripheral width (mm)	: 580
Effective width (mm)	: 470
Effective area (sq. M)	: 0.338
Concavity (mm)	: 140
No. of sieves	: Three
Blower	:
No. of blower	: One
Type	: Rectangular blades
Engine	:
No. of cylinders	: One
Lab. Performance Result	:
Power requirement	: 4.2 to 5.7 kw/h
Hourly Fuel Consumption	: 1.96 to 1.50 l/h
Cleaning efficiency	: 93.90 % to 95.47 %

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 177, 86, 257, 14, 75, 187, 258, 276, 97, 223, 310, 286, 151, 285, 350.

Portable Pump sets



Technical specification

Model Garuda	: 3PW1000
Engine Power	: 5 hp
Fuel	: L.P.G.
Max. Discharge, Lit./min.	: 1000
Max. Head, Mtr.	: 30

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 239

Power Tiller Operated Axial Flow Pump



Function: To lift water from open water sources

Specification:

- i. Type : Axial flow type
- ii. Power requirement : 8 -10 hp power tiller
- iii. Overall dimensions : 300 x 750 x 620 mm
- iv. Weight : 26 kg
- v. Capacity : 2500 litres per minute at 3.0 m head

General Information : The unit consists of a specially designed axial flow impeller which is secured to a pump shaft and encased inside a 19 cm diameter mild steel discharge tube .The impeller has two mild steel sheet-metal vanes welded to a threaded hub and has an average pitch of 20 degree. The impeller shaft runs in a long nylon bearing housed in mild steel tube which is welded to the pump assembly at an inclination of 30 degree. The pump can be coupled to the power tiller engine pulley through a flexible shaft supported by a frame near the power tiller engine and it is aligned perfectly by fixing the pump in desired position through hinge and adjustable frame. Behind the axial flow impeller is a set of diffusion vanes which serve to straighten the spiral flow from the impeller for improved efficiency.

Cost of the unit : Rs. 10,000/-

Salient features : Highly suitable for lifting water from open water sources
Capacity is 2 to 3 times higher than that of centrifugal pumps for lifts between 1.0 and 3.0 meters and hence high efficiency at lower lifts

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 207, 312, 356, 90, 87, 256, 13, 57, 102, 221, 348, 325, 68

Roto Seeder



Specification:

Overall dimensions

Overall width (Inch) : 70
Working width (inch) : 55

Weight

Hitch Type : Category 1 & 2
Hp Required : 40-45 HP
Gear Box Option : Multi Speed
Side Transmission : Chain Drive
Working Depth : 2" (5 cm)/ 6" (15cm)
No. of Flanges : 6
No. of Blades : 36

PTO Speed : 540/1000 rpm

Seed Capacity (kg) : 58

Fertilizer Capacity (kg) : 60

Seed Fertilizer Distribution : Broadcasting

Seed Fertilizer Metering Device: Broadcasting

Ground Wheel : One 24" Diameter spiked roller with spring to maintain with spring maintain contact with ground

Benefits:

1. Saves working time and slashes fuel costs.
2. Can be operated either in wet or dry soil conditions for preparing seed bed.
3. Improves soil health.
4. Provides perfect tilth.
5. Improves productivity and yield.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 341

Bund Forming Machine:



Features:

The Bund Former will strengthen the existing bund without damaging the height of the bed by adding on the sideways. This machine is suitable for both dry and wet conditions. The power required to operate this machine is about 40-50hp with 540rpm at PTO. The height of the bund is 25-30 cm.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 80

STONE BURIER



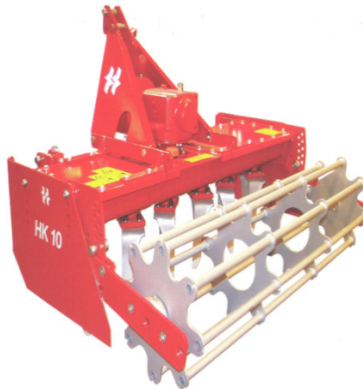
Features:

1. Tractor operated Stone Burier is useful for both wet and field condition
2. This is an ideal machine for soil preparation for perfect seed bed, both for flat field crops (grass, turf) and for crops planting in beds. (Vegetables, etc.)
3. This is a genuine one-pass machine burying the small stones/ pebbles, residues of the previous crop.
4. The rubber top helps to avoid soil sticking and gives trouble free longer life.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 80

POWER HARROW



Features:

- Highly useful for horticultural farms, green house cultivation and hi-tech gardening.
- Equipped with rear cage rollers
- Working depth is adjustable
- Side guard are easily adjustable in relation with size working depth
- Equipped with 540rpm gearbox
- Blade size- 250X 10 mm

Specifications:

Working width (m)	1.0
Transport width (m)	1.12
Power Requirement (Hp)	40-80
Number of Blades	8
Weight without cage roller (Kg)	275
Weight with cage roller (Kg)	320

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 80

CENTRIFUGAL PUMP



Specification:

Pump Size: 2.5" x 2.5" & 3" x 2.5"

Discharge: 9 to 49 lps

Head range: 21 to 29 Mtrs

High Head: 3000 to 10000 feet

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 57

HORTICULTURE SPRAYER



Features:

30 to 40 feet height Covered with H. T. P. Pumps Enable Spray for Apple, Mango and Chiku etc.

Specification:

Diesel Consumption: 0.75 Ltr. / Hour (Approx.)

Capacity: 2 Gun will be used at a time

Tank: 200 Ltr

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 57

Oil seeds –Machinery

S.N	Name of Machinery for Oil seeds	Page.No
1	Hand Operated Oil expeller	82
2	Oil Expeller/Screw Presses	83
3	Cold Screw Presses	84
4	Oil Presses	85
5	Animal Drawn Mustard Oil	86
6	Rotary Dibbler	87
7	Manual Oil seed Drill	88
8	Power tiller Drawn Seed Cum Fertilizer Drill	89
9	Manual garlic Planter	90
10	Self Propelled Power weeder	91
11	Wheel Hoe	92
12	Knapsack Power sprayer	93
13	Self Propelled Light Weight Boom Sprayer	94
14	Engine operated Power Sprayer	95
15	Battery Operated Power Sprayer	96
16	Battery operated Padgilwar Knapsack Sprayer	97
17	Sun Flower thresher	98
18	Multi Crop Thresher	99
19	Sun Flower thresher	100
20	Soyabean Reaper	101
21	Vertical Conveyor Reaper	102
22	Self Propelled Riding Type Reaper	103
23	Soyabean Blanching Unit	104

Hand operated oil Expeller



Suitable for extracting of Oil from the groundnut, Sesame, Sunflower

Capacity: 2 - 3 Kg/Hr

Manually operated Sieve Grader

Suitable for grading out Rice, Cereals, Coffee, Sand, Ground Powder etc.,



List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 83

OIL EXPELLERS / SCREW PRESSES



The use of machines like Screw Presses or Oil Expellers was started for expelling or extracting oil from oil seeds and nuts. Oil Expellers play a very vital role in the oil extraction process. A Screw Press is a mechanical machine that is used to press or crush oil seeds in order to extract the oil content from it. There are two types of Oil Screw Presses or Expellers, which are namely as follows:

- Full Press Expellers
- Pre Press Expellers.

The machines uses pressure and friction from the screw drives to move as well as to compress the oil seeds. The oil that is expelled then seeps through the small openings. These openings are very small which prevents any kind of solid material or residue from the seeds to mix with the extracted oil. The waste or solid residue from the seeds exits from the other end of the expeller. This leftover residue is also known as oil cakes.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 105

COLD SCREW PRESSES



Cold pressing or cold milling generally means that no extra heat is applied while pressing or crushing oil seeds. The heat that is applied to execute the process through friction only. Cold pressing does not mean pressing the seeds without any heat, as oil extraction cannot be done without the use of heat. Heat makes oil run out of the seeds in a faster manner. In fact, it is hard to find oils that are pressed without heat.

- Cold Screw Presses is equipment that is used for the extraction of oil.
- There are ample numbers of high quality Cold Screw Press Expellers that available in the market today.
- The lowest temperature that is applied in small expeller presses is around 50°C.
- Although, the heat in the presses increase due to friction during the expelling process.

Advantages:

- They provide a high oil yield
- There is a low content of residual oil in the oil cakes.
- The pressed oil is light in colour and is of a rich quality.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 105

Oil Presses



Our oil presses are widely used for processing various oil bearing materials like rapeseeds, cotton seeds, soybeans, peanuts, sesames, sunflowers, tung seeds as well as using for rice bran, corn embryo and powered oil materials and safflower and other wild plant oil materials.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 105

Animal Drawn Mustard Drill



Features

It is an animal drawn implement suitable for sowing rapeseed mustard, wheat and pearl- millet. This implement uses a rotor with cells on its periphery to meter the small seeds. Power from the ground wheel is transmitted by the chain and sprocket mechanism to the bottom of the hopper to activate the rotor. It has three bottoms and the row to row spacing can be easily adjusted for different crops. One additional idler helps in keeping the implement level and for depth control. It saves 50 percent labour and operating time and 51 percent on cost of operation and also results in 15-20 percent increase in yield compared to conventional method of sowing behind country plough.

Specifications

Dimensions (l x w x h) (mm)	: 1000 x 900 x 450
Weight (kg)	: 40
No. of rows	: Three
Seed metering	: Rotor with cells
Power transmission	: From ground wheels
Furrow opener	: Shoe type

Performance results

Seed rate (kg/ha)	: 1.5
Depth of seed placement (mm)	: 50 -60
Field capacity (ha/h)	: 0.2
Field efficiency (per cent)	: 65 - 70
Plants/m, length of row	: 6
Draft (N)	: 320
Labour requirement (man-h/ha)	: 5

Uses: It is suitable for sowing rapeseed mustard, wheat and pearl-millet.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer	: 63
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Rotary Dibbler



Features:

The rotary dibbler is a manually operated push type device for dibbling of medium and bold size seeds. It consists of a rotating dibbling head with penetrating jaws, covering-cum-transport wheel, seed hopper with cell type wooden roller and a handle. Except seed roller, which is made of good quality wood, all the other parts are fabricated from mild steel. The number of jaws varies from five to eight among various designs, depending upon seed to seed distance. For its operation, the hopper is filled with seeds and transport-cum covering wheel is drawn to rear side. The dibbler is then pushed forward in the direction of travel with covering cum transport wheel behind the dibbling head. The jaws penetrate into the soil and automatically drop the seeds. The seed to seed distance depends upon size of the polygon plate to which jaws are attached. 21.5 Jaw type 225 0.6 to 1.027.

Specifications:

Seed metering	: Cell type wooden roller, six cells
Weight (kg)	: 21.5
Seed placement device	: Jaw type
Jaw spacing (mm)	: 225
Capacity (ha/day)	: 0.6 to 1.027
Labour requirement (man-h/ha)	: 27

Uses

For sowing of medium and bold vegetable and other cereal seeds.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer	: 63
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Manual Oilseed Drill



Features:

The machine consists of a seed box attached to the main frame of a hand wheel hoe. A fluted roller assembly is provided at the bottom of the seed box. Fluted roller is rotated with the help of chain and sprockets from the ground wheel. The seed rate can be adjusted with the help of a lever provided on the seed box. The fluted roller used for sowing rapeseed and mustard has 8 flutes. Each flute is 3 mm wide and 2 mm deep. The diameter of the fluted roller is 50 mm and its length, 32mm. For operation, the machine is pulled by rope attached to the hook of machine by one man and other person steers the machine by holding it by the handle.

Specifications:

Length (mm)	: 1270
Width (mm)	: 520
Height (mm)	: 1000
Crops for which machine is adaptable	: Rapeseed & Mustard
Seeding mechanism	: Fluted roller with narrow flutes
Power transmission	: Through chain and sprocket
Hopper capacity (kg)	: 2
Number of rows	: One
Furrow opener	: Shovel type
Weight (kg)	: 9.0

Uses:

Manual oilseed drills are used for sowing rapeseed and mustard. By changing the fluted roller position, other crops like wheat, moong etc. can also be sown. It is also suitable for inter-row sowing

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 63

Power Tiller Drawn Seed cum Fertilizer Drill



Features:

This machine has been specially designed for operation with a power tiller of 8-10 hp to drill seed and fertilizer in 6 rows. It is provided with depth control gauge wheels and a ground wheel for operating the metering mechanism. Some of its major components are the main frame, seed and fertilizer boxes, metering mechanism, transport wheel, furrow openers, hitch system etc. It is suitable for sowing seeds of wheat, soybean, Bengal gram, sorghum etc in medium and heavy soil.

Specifications

Overall Dimensions

- Length (mm)	: 1650
- Width (mm)	: 1510
- Height (mm)	: 1130

Weight (kg) : 120

Draft (N) : 675

Working width (mm) : 1000-1200

Working depth (mm) : 40-70

Operating speed (km/h) : 2 - 3

Field capacity (ha/h) : 0.20 – 0.25

Field efficiency (%) : 50 - 60

Labour requirement (man-h/ha) : 4-5

Fuel consumption (l/h) : 11

Uses:

It is used for drilling seeds and fertilizer in six rows.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 37, 322, 245, 3, 23, 36, 29, 59, 88, 112, 114, 123, 130, 133, 153, 183, 196, 209,
212, 214, 237, 250, 262, 269, 278, 273, 274, 275, 303, 304, 334, 347, 362

Manual garlic planter



Features:

This is a hand wheel hoe, used for inter-culture operation on which planting mechanism is mounted. The planting mechanism consists of a vertical plate with spoons, and receives drive motion from the ground wheel through chain and sprockets. For operation of the planter, a person pulls it from rope attached to the hook and other person steers the machine by holding it by the handle. Upon pulling the planter forward, ground wheel starts rotating transmitting motion to the vertical plate fitted with spoons in the hopper. The hopper is filled with seeds or garlic cloves. As the vertical plate rotates, the spoons pick up the bulb/seed, which is discharged, in the small hopper connected to the furrow opener through a tube. The seed is then dropped in the furrow created by the furrow opener. It is provided with markers for maintaining the row-to-row spacing. Varying the number of spoons on vertical plate can vary plant spacing. Planting spoons for other crops like pea, sunflower, cotton, okra (bhindi), maize, and soybean are also available.

Specifications:

Length (mm)	: 1070
Width (mm)	: 460
Height (mm)	: 1100
Number of rows	: One
Capacity of seed box (kg)	: 3
Seed metering mechanism	: Vertical disc with spoons
Number of spoons on the plate	: 12 (for garlic)
Shape of spoon	: Elongated cavity, 'c' shape
Power transmission	: Through chain and sprocket
Depth of planting (mm)	: 10-20
Type of furrow openers	: Shovel type
Machine weight (kg)	: 14.0

Uses:

This planter is used for sowing of garlic, maize, moong, peas, groundnut etc. Garlic planter is labour saving equipment and requires 90 man-hours to plant one hectare.

Manufacturer : 63

Self-Propelled Power Weeder



Features

The self-propelled weeder consists of a box section chassis, 3-hp petrol -start- kerosene run engine, transmission system, drive wheels, tool mounting bar of 70 x 70 mm size. The engine, gearbox and tool mounting bar are fixed to main chassis. The engine is mounted on front side of the chassis on proper foundation. The gearbox with transmission system is mounted in the middle of chassis. Two steel lugged drive wheels of 500 mm diameter and 110 mm width are mounted on both ends of hexagonal shaft connected to transmission box. The wheel tread (spacing between two wheels) can be adjusted from 400 to 650 mm to suit the row-to-row spacing of different crops. The V -shaped weeding sweeps of 150 and 200 mm size are fitted on tynes. These tynes are mounted on the tool bar with clamps. The tynes are raised or lowered for adjusting the depth of operation and locked in position by the clamp. The spacing between sweeps is easily adjusted by sliding the tynes on tool mounting bar to suit the crop row spacing. Power from engine is transmitted to gearbox through V –belt and pulleys. Inside the transmission box power is transmitted through chain and sprockets to two hexagonal drive shafts/ axles. A lever operated clutch idler pulley is used for tightening loosening of V -belt, transmitting the power from engine to transmission box. For operation, the tynes are adjusted to the raised position so they do not dig into the ground and the weeder is transported to the field. The tynes are adjusted according to the row spacing of the crop and depth of operation.

Specifications

Overall dimensions (mm)	: 2300 x 1000 x850
Engine	: 3 hp petrol- start- kerosene-run
Chassis	: 70 x70 mm box section chassis
Wheels	: Two steel lugged drive wheels of 500 mm diameter and

Performance Results

Weeding Efficiency (%)	: 65-70
Field capacity (ha/h)	: 0.15
Field efficiency (%)	: 60 to 70
Fuel Consumption (l/h)	: 0.70

Uses:

The CIAE self-propelled Power weeder is suitable for weeding and intercultural operations in upland row crops like groundnut, maize, soybean, pigeon pea, etc. sown at row-to-row spacing of more than 30 cm.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 82, 252, 34, 62, 111, 263, 11, 35, 155, 156, 350, 326, 194.

Wheel Hoe



Features:

The wheel hoe is a widely accepted weeding tool for weeding and intercultural in row crops. It is a long handled tools operated by push and pull action. As the name implies, the general construction of wheel hoe comprises of wheel assembly, miniature tool frame, a set of replaceable tools and handle assembly. The number of wheel varies from one to two and the diameter depends upon the design. The frame has got a provision to accommodate different types of soil working tools such as straight blade, reversible blades, sweeps, V -blade, tine cultivator, pronged hoe, miniature furrower, spike harrow (rake) etc. which can be operated by a single person. The handle assembly has a provision to adjust the height of the handle to suit the operator. All the soil working components of the tool are made from medium carbon steel and hardened to 40-45 HRC. The other assemblies of the wheel hoe are made from structural mild steel and thin walled mild steel pipes. The working depth of the tool can be adjusted with the help of clamp or through the plate with multiple holes provided in the frame and welded to the tool assembly. The handle height is also adjustable. Some of the designs are provided with a pulling ring in the frame, which enables it to be operated by two persons. For operation, the working depth of the tool and handle height is adjusted and the wheel hoe is operated by repeated push- pull action which allows the soil working components to penetrate into the soil and cut/uproot the weeds in between the crop rows. With this action, the weeds also get buried in the soil.

Specifications:

The wheel hoes are available in various designs and sizes and the general specifications are:

Overall length (mm)	: 1400- 1500
Overall width (mm)	: 450- 500
Overall height (mm)	: 800- 1000
Number of tynes	: 3 Nos
Wheel diameter (mm)	: 200- 600
Working depth (mm)	: Upto 60
Weight (kg)	: 4- 12

Uses:

For weeding and interculture of vegetables and other crops sown in rows.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 63

Knapsack Power Sprayer



Features

The pump adopts horizontal gear driving. It is powerful and stable in pressure. As it is oil-soaking type, the lubricating effect of crank box is positive. It adopts double cylinder pump, which raises operational efficiency. The piston is heat treated and wear resistant. Packing adopts special materials so it is durable. The engine has electronic ignition, which is easy to be operated and maintained. Its engine has high power to weight ratio. It uses gasoline as a fuel and produces one power stroke for each 1800 of crank rotation. Pressure is controlled by oil valve; spraying pressure is changeable freely and up to 30 kgf/cm². Its structure is rigid; materials are excellent and easy to be maintained.

Specification

Length (mm)	: 650
Width (mm)	: 450
Height (mm)	: 570
Weight (kg)	: 9.8
Number of gangs	: 2
Plunger	: 1 No. (Double acting)
Cylinder	: 2 Nos.
Diameter of plunger (mm)	: 16
Stroke (mm)	: 8
Spraying volume (liters)	: 4.8 – 5.2
Pressure (kg/cm ²)	: 20 – 25

Uses

It is suitable for spraying pesticides and fungicides on rice, fruits and vegetable crops.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 24

Self-Propelled Light Weight Boom Sprayer



Features

The machine is operated by 5 hp diesel engine and is controlled by the operator from the handle. The machine consists of a lightweight power tiller unit and a spraying unit. Spray pump and two narrow pneumatic wheels get power from the engine through gears, chains and sprockets. One caster wheel is also provided at the rear, which acts as supporting wheel. The spray boom is mounted on the power unit through a canopy frame.

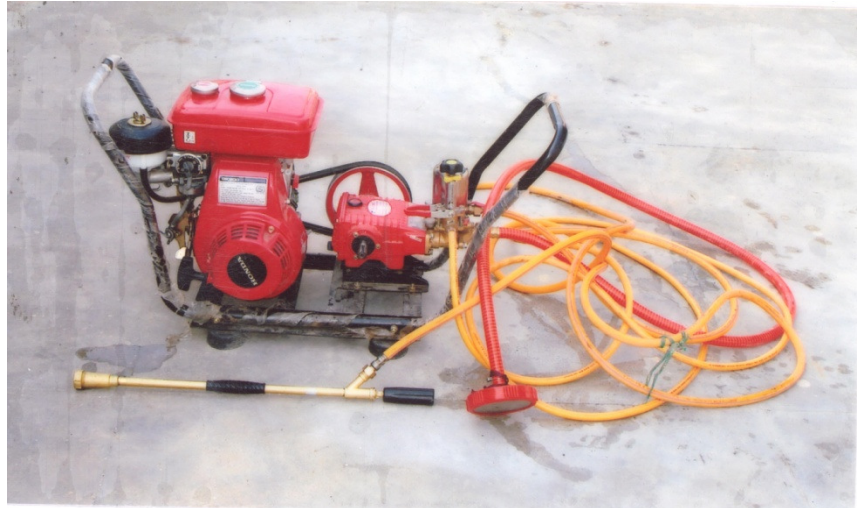
Specifications

Power required (hp)	: 4.8, diesel engine
Engine speed (rpm)	: 2600
Type of pump	: Roller type
Ground clearance (mm)	: 500
Boom height (mm)	: 600 – 1300
Number of nozzles	: 12
Type of nozzles	: Flat fan/any other
Nozzle spacing (mm)	: 500
Tank capacity (l)	: 100
Pump speed (rpm)	: 1600
Swath (mm)	: 6300
Wheel diameter (mm)	: 440
Tread width (mm)	: 920
Weight, (kg)	: 208

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 63

Engine operated power sprayer



Specification:

Output capacity (LPM) : 14-22

Prime Mover

Recommended : Engine 3.5 to 4 Ps , Motor 1.5 to 2 H.P

Prime Mover used : Single cylinder 4 stroke petrol start kerosene run engine.

Power rating (h.p) : 3.1 h.p at 3600-400 rpm

Capacity (cc) :197

Bore/stroke (mm) :67/56

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 179

Battery operated Power sprayer



Make	: Jet stream
Prime mover	
Prime mover used	: D.C. motor
Power rating (v)	: 12 V DC, 10 Amp
Power Source	: Battery 12 volt, 13 plates
Tank capacity (lit)	: 370
Nozzle	
Type	: Hollow cone
Nozzle discharge (lit/min)	: 0.46 to 0.91 at 1 to 4 bar pressure
Spray angle	: 52
Overall dimensions (mm)	
Length (with hose)	: 4950
Length (without hose)	: 2600
Width (mm)	: 3620
Track width	: 1410
Application/area of use	: spraying of insecticides and pesticides
Height of jet throws (mm)	: 6930
Details of prime mover	
Type	: Single cylinder, four strokes, Air cooled, spark ignition, petrol Engine.
Make	: Yamaha
Max power (Kw)	: 2.99@2824
Cylinder:	
No. of cylinder	: one
Bore/stroke (mm)	: 66.0/50.0
Capacity cc	: 171
Field performance data	
Avg. Depth	: 3.7 to 5.6 cm
Avg. Speed	: 2.15 to 2.49 Kmph
Avg. Area	: 0.15-0.21 ha/hr
Fuel consumption l/hr	: 0.70-0.82
l/ha	: 3.81 -5.84
Avg. Spacing betn rows	: 28.7 -29.9cm

Battery operated Padgilwar Knapsack sprayer



Specification

Type	: Rechargeable battery operated sprayer
Tank capacity	: 15 litre
Pump discharge	: 560ml/min
Length of lance	: 530mm
Nozzle type	: Fixed, hollow cone type
Spray angle of nozzle	: 88 deg
Discharge rate of nozzle	: 685 ml/min

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture : 85,257,356,143,321,10,356,57,215,260,185,186,19,82,110,119,128,148,252,
317,335,352,359,44,17,34,49,53,91,93,99,111,146,208,222,223,224,225,251,291,336,370,11,26,95,116,217,323, 39,
50,156,329,356,6,7,87

SUNFLOWER THRESHER



Features

It is a pedal operated hold on type sunflower thresher suitable for separating seeds from sunflower heads. It consists of a threshing wheel having spokes and a blower fan operated by foot pedal through chain and sprocket. Four persons hold sunflower heads on the threshing wheel through holes provided in the cover. It saves 50 percent labour and operating time and 33 percent on cost of operation compared to conventional method of manual beating.

Specifications

Dimensions (l x w x h) (mm)	: 1170 x 1050 x 660
Threshing wheel dia (mm)	: 635
Number of spokes	: 50
Power source	: One person for drive
Weight (kg)	: 50

Performance results

Crop	: Sunflower heads
Cylinder speed (rev/min)	: 166
Broken grain (per cent)	: Nil
Total grain losses (per cent)	: 3.41
Threshing efficiency (per cent)	: 100
Cleaning efficiency (per cent)	: 95
Output capacity (kg/h)	: 40 (with 4 persons)
Labour requirement (man-h/q)	: 10

Uses

It is used for separating seeds from sunflower heads.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 2, 18, 113, 135, 195, 367, 364.

Multicrop Thresher



Main Crop	: Paddy
ther crops	: Sunflower, Maize, Jowar, Bajra, Ragi, Wheat etc.
Prime-mover Type	: Four stroke diesel engine/Electric engine
Frame Dimensions (mm)	: 2340 x 860 x 1120
Type of Crop feeding system	: Rectangular
Size of feeding hopper (mm)	: 3360 x 860
Feeding System	:
- Size of platform (mm)	: 30 x 30 x 4.5
- Height of feeding chute from G.L.	: 1760
Threshing Cylinder	:
Type	: Rasp bar, closed
Size of cylinder (mm)	: 735 x 470 ϕ
Size of rasp bar	: 735 x 50 x 22.53
Nominal Dia of cylinder (mm)	: 470
Width of cylinder	: 735
Main shaft	:
Material & size (mm)	: MS bar, 1370 x 42.3 ϕ
No. type of bearings on shaft	: Two, Ball bearings
Concave	:
Peripheral length (mm)	: 740
Effective length (mm)	: 720
Peripheral width (mm)	: 580
Effective width (mm)	: 470
Effective area (sq. M)	: 0.338
Concavity (mm)	: 140
No. of sieves	: Three
Blower	:
No. of blower	: One
Type	: Rectangular blades
Performance Result	:
Power requirement	: 4.2 to 5.7 kw/h
Hourly Fuel Consumption	: 1.96 to 1.50 l/h
Cleaning efficiency	: 93.90 % to 95.47 %

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 177

Sunflower Thresher



Specifications

Type	: Stationary, Power operated
Size of thresher	: 690 x 207 ϕ
Type of prime-mover	: Three phase, 3.75 kw (5 hp), electric motor
Speed (rpm)	: 1440
Prime mover shaft dia. (mm)	: 28
Type of pulley & dia.	: B-Section, V-groove 100 mm ϕ
Type of Drive	: V-Belt (B-92) and pulley
Frame Dimensions (mm)	: 50 x 50 x 6.6
Hopper	
- Type	: Free flow trapezoidal hopper
- Size (mm)	: 505 x 505
- Height (mm)	: 405
Feeding Hopper	
- Type	: Rectangular
- Size(mm)	: 250 x 170

Threshing Cylinder

Type	: Peg tooth type
Size of cylinder (mm)	: 690 x 207 ϕ
Threshing cylinder speed	:
- Rotational (rpm)	: 475 - 490
- Peripheral (m/s)	: 5.15 – 5.31

No. type of bearings on shaft	: Two, Ball bearings
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Concave

Length (mm)	: 750
Effective length (mm)	: 680
Effective curved width (mm)	: 340

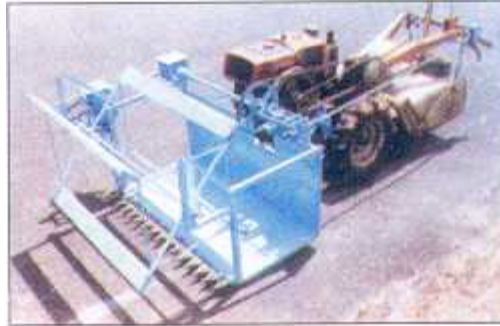
Lab. Performance Result

Cleaning efficiency	: 78.68 %
Threshing efficiency	: 99.83 %
Power Requirement	: 1.1 to 2.08 kwh

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 4

Soybean Reaper



Features

The power tiller operated soybean reaper is a walk I behind equipment suitable for harvesting rice, wheat soybean and other thin-stemmed crops. The prime mover is a standard power tiller of 8-10 hp and the reaper unit is mounted in the front. Crop gathering is by means of a standard reel and the cutter bar is at the front with a loading platform for the cut crop. A flat belt moves over the platform to convey the crop to one side of the machine. The reaper consists of cutter bar, reel, platform, and gauge roller; hitch plate, power transmission system, dog clutch and mainframe.

Specifications

Overall Dimensions	
- Length (mm)	: 1350
- Width (mm)	: 1510
- Height (mm)	: 1090
Weight (kg)	: 120
Cutting width (mm)	: 1200
Operating speed (km/h)	: 1.4-1.8
Total grain losses (%)	: 2-4
Field capacity (ha/h)	: 0.09-0.122
Fuel consumption (l/h)	: 0.6
Field efficiency (%)	: 74
Labour requirement (man-h/ha)	: 20

Uses

It is used basically for the harvesting of soybean crop. It can also be used for harvesting of other bushy crops.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 63

Vertical Conveyor Reaper



Features

It is an engine operated, walk behind type harvester suitable for harvesting and windrowing cereals' - & oilseed crops. The reaper consists of engine, power transmission box, lugged wheels, cutter bar, crop row dividers, conveyor belts with lugs, star wheels, operating controls and a sturdy frame. The engine power is transmitted to cutter bar and conveyor belts through belt pulleys. During forward motion of the reaper, crop row dividers divide the crop, which come in contact with cutter bar, where shearing of crop stems takes place. The cut crop is conveyed to one side of the machine by the conveyor belt fitted with lugs and is windrowed in the field. The crop is bundled manually and transported to threshing yard.

Specifications

Dimensions (l x w x h) (mm)	: 2450 x 1200 x 1000
Weight (kg)	: 145
Number of crop dividers	: 4
Length of cutter bar (mm)	: 1000
Cutter bar pitch (mm)	: 75
Number of strokes/min	: 700 (0.8 m/s average speed)
Power source (hp)	: 5, diesel engine

Performance results

Crop	: Soybean
Width of cut (mm)	: 927
Operating speed (km/h)	: 3.18 – 3.39
Field capacity (ha/h)	: 0.21
Field efficiency (per cent)	: 65
Total grain losses (per cent)	: 3.4
Fuel consumption (l/h)	: 0.74
Labour requirement (man-h/ha)	: 13

Uses

Used for harvesting and windrowing cereals and oilseed crops.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer	: 63
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Self-Propelled Riding Type Reaper



Features

The riding type vertical conveyor reaper is a self-propelled unit in which the operator rides on the machine. Drive is by means of two large pneumatic wheels and steering is by rear idlers. The prime mover is a 6 hp diesel engine. Convenient clutch, break, steering, hydraulic system and simple power transmission are provided for ease of operation. It consists of crop row divider star wheel cutter bar (76.2 mm), conveyor belt and wire spring etc. This reaper has two forward and one reverse speed.

Specifications

Overall Dimensions	
- Length (mm)	: 3185
- Width (mm)	: 1900
- Height (mm)	: 1450
Weight (kg)	: 1530
Operating speed (km/h)	: 3.0 – 3.5
Total grain losses (%)	: 5.0 – 5.9
Field capacity (ha/h)	: 0.25 – 0.30
Fuel consumption (lit)	: 0.90 – 1.15
Field efficiency (%)	: 60 – 70
Labour requirement (man-h/ha)	: 5 – 6

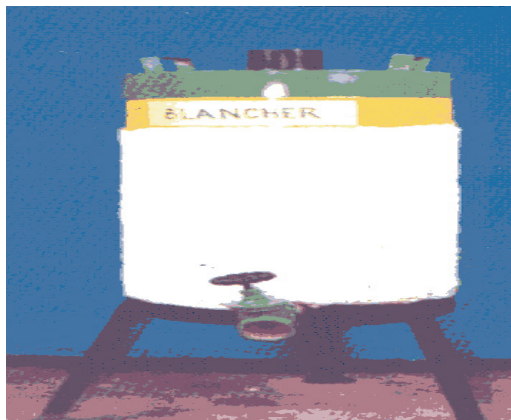
Uses

It is suitable for harvesting rice, wheat, soybean and other cereals and oilseeds.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 57, 31, 142, 2, 18, 113, 136, 135, 195, 367, 364, 157, 181, 82, 92, 268, 293, 355, 47, 44, 158, 159, 162, 235, 324, 111, 42, 100, 228, 242, 338, 350, 356, 90, 32.

Soybean Blanching Unit



Features

Blanching of soybean is carried out to remove anti-nutritional ingredients. It is essentially a water heater with the provision for inserting and removing the containers of soybean. It has a central cylinder through which the hot flue gases pass to heat the water, which is stored in a concentric outer cylinder. The outer cylinder is insulated with asbestos rope to conserve heat. Soybean is placed in stainless steel perforated cages and immersed in the hot water. It consists of central heating cylinder, outer cylinder, asbestos rope insulation, stainless steel perforated cages, grate, stand and gate valve. A batch of 20 kg soy dal in four perforated cages is dipped into annular space for 1 hour at 100 °C. After treatment, the dal is air dried.

Specifications

Overall Dimensions

- Diameter (mm)	: 460
- Height (mm)	: 1470
- Weight (kg)	: 35
Capacity (kg/h)	: 20

Fuel requirement (kg) : 3.5

Thermal efficiency (%) : 21-38

Labour requirement (man-h/q) : 5

Uses

It is used to impart wet heat treatment to soy dal to eliminate anti-nutritional factors

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 63

PULSES - Machinery

S.N	Name of Machinery for Pulses	Page.No
1	Manually Operated Fertilizer Broadcaster	106
2	Manual Garlic Planter Multicrop Planter	107
3	Power Tiller Mounted Zero till Drill machine	108
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5	Power tiller Operated Air assisted Seed Drill	110
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10	Animal drawn Planter	115
11	Rotary Dibbler	116
12	Seed Grader cum Cleaner (Pedal and Power Operated)	117

Manually Operated Fertilizer Broadcaster



Features:

It consists of a hopper with tapered bottom, with a side slope of about 46 degrees. A circular disc having X sections is fitted on a vertical shaft below the fertilizer hopper and is rotated by it consists of a hopper with tapered bottom, with a side slope of about 46 degrees. A circular disc having X sections is fitted on a vertical shaft below the fertilizer hopper and is rotated by a handle through gear arrangement. The gear ratio between the handle and the spreading disc is 1:8.4. A metered quantity of the fertilizer through adjustable opening falls on the disc, which spreads uniformly due to centrifugal force. Machine is mounted on the shoulders and is operated at a forward speed of about 2.0 km/h.

Brief Specifications:

Power source	: One person
Hopper bottom shaped	: Cone
Width (mm)	: 280
Height (mm)	: 410-415
Hopper capacity (kg)	: 12-15
Shape of metering hole	: circular
Spreading disc spinner diameter (mm)	: 225-273
Vertical clearance from hopper bottom (mm)	: 24-44
No of fins	: 8
Weight (kg)	: 3.8-10

Uses:

It is suitable for broadcasting granular fertilizers like urea, DAP etc. in the field uniformly. The effective width of coverage is about 630 cm.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 335, 63, 53, 91, 224, 116, 366.

Manual Garlic Planter MulTicrop Planter



Features:

This is a hand wheel hoe, used for inter-culture operation on which planting mechanism is mounted. The planting mechanism consists of a vertical plate with spoons, and receives drive motion from the ground wheel through chain and sprockets. For operation of the planter, a person pulls it from rope attached to the hook and other person steers the machine by holding it by the handle. Upon pulling the planter forward, ground wheel starts rotating transmitting motion to the vertical plate fitted with spoons in the hopper. The hopper is filled with seeds or garlic cloves. As the vertical plate rotates, the spoons pick up the bulb/seed, which is discharged, in the small hopper connected to the furrow opener through a tube. The seed is then dropped in the furrow created by the furrow opener. It is provided with markers for maintaining the row-to-row spacing. Varying the number of spoons on vertical plate can vary plant spacing. Plantings spoons for other crops like pea, sunflower, cotton, okra (bhindi), maize, and soybean are also available.

Specifications:

Length (mm)	: 1070
Width (mm)	: 460
Height (mm)	: 1100
Number of rows	: One
Capacity of seed box (kg)	: 3
Seed metering mechanism	: Vertical disc with spoons
Number of spoons on the plate	: 12 (for garlic)
Shape of spoon	: Elongated cavity, 'c' shape
Power transmission	: Through chain and sprocket
Depth of planting (mm)	: 10-20
Type of furrow openers	: Shovel type
Machine weight (kg)	: 14.0

Uses:

This planter is used for sowing of garlic, maize, moong, peas, groundnut etc. Garlic planter is labour saving equipment and requires 90 man-hours to plant one hectare.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 63, 307

Power Tiller Mounted Zero till Drill Machine



Features:

The power tiller mounted zero till drill consists of five inverted Tee type furrow openers, seed and fertilizer hoppers and fluted roller type metering mechanism. A compaction roller provided for closing the slit created by furrow openers after the placement of seed, fertilizers. It is mounted on the hitch point of an 8-10 hp power tiller. It can directly drill seed and fertilizer without seedbed preparation. It is suitable for wheat, barley, lentil, chickpea, pea and paddy. Field capacity of the machine is 0.15 ha/h and field efficiency is 65%.

Uses:

For drilling of wheat, barley, lentil, chickpea, pea after rice harvest.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 63

Power Tiller Operated Till Plant Machine



Features:

This machine has been specially designed for operation with a power tiller of 10-12 hp to carry out simultaneous tilling and planting operation in a single pass. It can plant two rows simultaneously. It is provided with a pair of depth control gauge wheels, which also serve to activate the metering mechanism. Some of its major components are the main frame, seed and fertilizer boxes, metering mechanism, transport wheel, furrow openers, hitch system etc. It is suitable for sowing seeds of wheat, soybean, Bengal gram, sorghum etc in medium and heavy soil.

Specifications

Overall Dimensions	
- Length (mm)	: 1680
- Width (mm)	: 1075
- Height (mm)	: 790
Weight (kg)	: 80
Draft (N)	: 1700
Working width (mm)	: 660 - 900
Working depth (mm)	: 60-120
Operating speed (km/h)	: 1.5 - 2
Field capacity (ha/h)	: 0.20 – 0.25
Field efficiency (%)	: 60 - 65
Labour requirement (man-h/ha)	: 9 - 12
Fuel consumption (l/h)	: 1.1

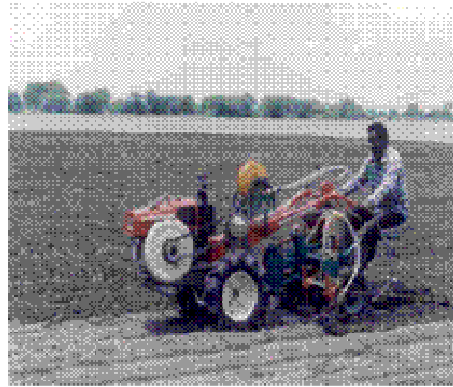
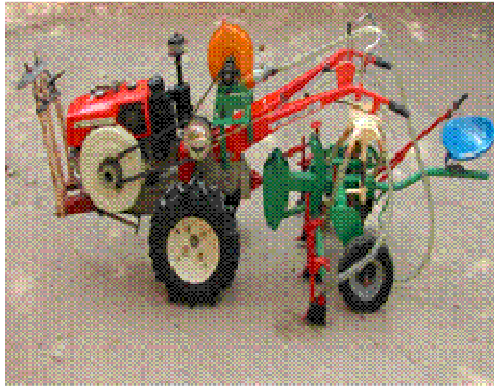
Uses:

Used for preparing the seedbed, sowing the seeds and drilling the fertilizer simultaneously

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 63

Power Tiller Operated Air Assisted Seed Drill



Function:For sowing small seeds like sesame, cumbu, horse gram and sorghum

Specification:

i. Type : Power tiller mounted implement

ii. Power requirement : 8 to10 hp Power tiller

iii. Capacity : 2 to 2.5 ha/day

General Information :

Cost of the unit : Rs.20, 000/-

Salient features : Spacing between the rows can be adjusted from 30 to 60 cm.

Suitable for all makes of 10 to 12 hp power tiller.

Savings in time: 80%

Savings in sowing cost: 50%

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 68

Power Tiller Drawn Seeder



Features

The attachment consists of seed box with cup feed metering mechanism, lifting arrangement, seed cut off clutch, tool bar, hoe type furrow openers and seating attachment, all mounted on an easily detachable articulated double wheeled frame. The cup feed seed mechanism is driven by chain and sprockets from the ground wheel. The lifting of tool bar disengages the clutch transmitting power to the seed-metering shaft. The spacing between furrow openers and the depth of sowing are easily adjustable.

Specifications:

Length, (mrn)	: 1080
Width, (mrn)	: 1180
Height, (mrn)	: 925
Number of rows	: 4
Row to row spacing, (mm)	: 250 -600 adjustable
Power requirement, (hp)	: 10 – 12

Uses:

Used for sowing seeds like groundnut maize, sorghum and pulses united for all the maker of 10-12 hp power tillers. Operator can ride comfortably while sowing along with the unit.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer	: 63
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Power Rotary Weeder



Technical Specification

Function	:	For mechanical control of weeds in crops such as sugarcane, tapioca, cotton and orchards.
Specification	:	
i. Type	:	Self-propelled
ii. Power requirement	:	8.38 hp Diesel engine
iii. Overall dimensions	:	2400 x 1750 x 1100 mm
iv. Weight	:	200 Kg
v. Capacity	:	1 - 1.2 ha per day
General Information	:	A 8.38 hp diesel engine operates the weeder. The engine power is transmitted to ground wheels through V belt-pulley. A tail wheel is provided at the rear to maintain the operating depth. Weeding is done by the rotary weeding attachment. The rotary weeder consists of three rows of discs mounted with 6 numbers of curved blades in opposite directions alternatively in each disc. These blades when rotating enable cutting and mulching the soil. The width of coverage of the rotary tiller is 500 mm and the depth of operation can be adjusted to weed and mulch the soil in the cropped field.
Cost of the unit	:	Rs. 65,000
	:	
Salient features	:	Useful for weeding between rows of crops like tapioca, cotton, sugarcane, maize, tomato and pulses whose rows spacing is more than 45 cm

Attachments like sweep blades, ridger, trailer can be used with the

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 175, 173, 170, 32, 174, 168, 171, 332, 189, 346, 172, 169, 198, 342, 117, 357, 81, 141, 312, 126, 308, 253, 294, 295

Animal Drawn Planter



Features:

Animal drawn 3-row inclined plate planter is a multi-crop planter for planting of bold and small seeds. The planter consists of a frame with toolbar, modular seed boxes; furrow openers and ground wheel. It has three independent seed boxes with inclined plate type seed metering mechanism. Seed plates for sowing different seeds can be selected and easily changed. The plate thickness, number and size of cells on seed plate vary according to seed size and desired plant-to-plant spacing. Shoe type furrow openers ensure deeper seed placement in moist zone for sowing under dry land conditions. Modular seed box-furrow opener units are adjustable for sowing seeds at different row-to-row spacing. Drive to seed metering mechanism is transmitted from ground wheel through chain and sprockets. Ground wheel and power transmission system are fixed on the main frame. An optional fertilizer box with fluted roller type metering system can also be mounted on the main frame for application of granular fertilizers. The planter is also suitable for sowing of intercrops as different seeds can be filled in different boxes. Power from ground wheel is transmitted to the counter drive shaft through a set of chain and sprockets. Another set of sprockets on the counter shaft transmits the power to main driveshaft. Main drive shaft drives the individual drive shafts of modular seed boxes through sets of chain and sprockets and these shafts in turn rotate the inclined seed metering plates through a set of bevel gears. Drive ratio between ground drive wheel and seed plate can be changed, by selecting appropriate size of sprocket on wheel axle or on counter and main drive shafts.

Specifications:

Overall dimensions (mm)	: 1200 x1300 x900
Weight	: 75
Number of rows	: 3 (row spacing adjustable from 25 to 45 cm)
Seed Metering	: Inclined plate with cells, 120 mm diameter
Fertilizer metering	: Aluminum fluted rollers
Furrow openers	: Shoe type
Power transmission	: Through chain and sprocket and bevel gears
Power source	: Medium size pair of bullocks

Performance results:

Visible seed damage (%)	Less than 1.0
Field capacity (ha/h)	0.16 to 0.2 (for row spacing of 25 -45cm)
Field efficiency (%)	60 to 70

Uses:

The animal drawn 3- row planter is suitable for sowing of bold (like groundnut, maize, Kabuli gram, etc.) and very small (mustard, sorghum, etc) size seeds which otherwise cannot be satisfactorily sown by conventional seed drills. The planter is also suitable for sowing of intercrops.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer	: 63
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Naveen Dibbler



Features:

The automatic dibbler is manually operated hand tool which consists of a seed hopper, cell type roller for metering of seeds, spring actuated jaws for penetration in the soil, pipe and handle. All the parts are made from mild steel except seed roller, which is fabricated from good quality wood. For its operation, the dibbler is held in both hands and jaws are pushed into the soil to the desired depth at an angle of 20 degrees with vertical. The dibbler is given a jerk at the handle in the forward direction, which rotates the roller in seed hopper and releases one or two seeds depending upon the size of cell. At this moment the jaws also open and allow the seed to fall in the cavity created by the jaws. The dibbler is raised and moved to the next position of sowing. Upon rising of the dibbler the roller returns to original position and jaws also close.

Specifications:

Weight (kg) : 2.5
Capacity (hills/ h) : 300-400

Uses:

For sowing of bold seeds such as peas and also for gap filling in rows

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 63

Animal Drawn Planter



Features:

It is an animal drawn implement suitable for sowing groundnut, cotton, maize, sorghum and Bengal gram. It is provided with a seed hopper and cup type seed metering mechanism and hence able to maintain plant to plant spacing. The drive to the metering mechanism is through the ground wheel and chain and sprocket mechanism. A convenient handle is provided for guiding the unit while in operation. It can accommodate three shoe type furrow openers and the row to row spacing can also be adjusted as per the need of the crop. It saves 97.5 per cent labour and operating time and 73 per cent on cost of operation compared to conventional method of sowing behind the country plough.

Specifications:

Dimensions (l x w x h) (mm)	: 1200 x 1100 x 950
Weight (kg)	: 60
No. of rows	: Three
Seed metering	: Cup feed type
Furrow opener	: Shoe type
Power transmission	: Ground wheel through chain & sprocket
Power source	: Pair of medium size bullocks

Performance results:

	Machine	Conventional
Seed rate (kg/ha)	139	116
Width of coverage (mm)	900	150
Depth of placement (mm)	30-40	40
Operating speed (km/h)	2.1	2.5
Field capacity (ha/h)	0.19	0.05
Field efficiency (per cent)	74	80
Draft (N)	600	400
Labour requirement (man-h/ha)	5.3	20

Uses:

It is suitable for sowing groundnut, cotton, maize, sorghum and Bengal gram.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 63

Rotary Dibbler



Features:

The rotary dibbler is a manually operated push type device for dibbling of medium and bold size seeds. It consists of a rotating dibbling head with penetrating jaws, covering-cum-transport wheel, seed hopper with cell type wooden roller and a handle. Except seed roller, which is made of good quality wood, all the other parts are fabricated from mild steel. The number of jaws varies from five to eight among various designs, depending upon seed to seed distance. For its operation, the hopper is filled with seeds and transport-cum covering wheel is drawn to rear side. The dibbler is then pushed forward in the direction of travel with covering cum transport wheel behind the dibbling head. The jaws penetrate into the soil and automatically drop the seeds. The seed to seed distance depends upon size of the polygon plate to which jaws are attached. 21.5 Jaw type 225 0.6 to 1.027

Specifications:

Seed metering	: Cell type wooden roller, six cells
Weight (kg)	: 21.5
Seed placement device	: Jaw type
Jaw spacing (mm)	: 225
Capacity (ha/day)	: 0.6 to 1.027
Labour requirement (man-h/ha)	: 27

Uses: For sowing of medium and bold vegetable and other cereal seeds.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 63

SEED GRADER CUM CLEANER (PEDAL AND POWER OPERATED)



Features:

It is pedal or 0.5 HP Single Phase Electric Motor operated equipment to separate dust, dirt tones, straw, chaff etc. and grade the cereals and pulses. It consists of main frame, hopper, feeding mechanism, sieve box, scalping and grading sieves, eccentric unit centrifugal blower, bicycle drive unit etc.

Technical Specification:

Length (mm):	1600 mm
Width (mm):	500
Height (mm):	1000
Weight (kg):	100-110kg
Bottom Screen size (mm):	18 X 20 – 32 X20
Screen Effectiveness (%):	71.3- 81.7
Cleaning Efficiency (%):	99.1 X 99.9
Capacity Kg/H:	330-800 Kg/h
Labour Requirement:	0.4 Man-h/q
Operating Cost Rs. /q:	7.5/ Rs. /q

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture : 57

Sugarcane Machinery

S.N	Name of Machinery for Sugarcane	Page.No
1	Animal Drawn Automatic Sugarcane Planter	119
2	Rotary weeder	120
3	Sugarcane Set Cutter	121
4	Sugarcane Detrasher	122
5	Sugarcane Crusher	123
6	Sugarcane Crusher (Horizontal type)	124
7	Sugar-grading Machine	125
8	Rotary plough	126
9	Hand Operated Sugar cane Crusher	127
10	Sugarcane Crusher	128
11	Tractor operated Multipurpose Equipment	129
12	Tractor drawn Sugarcane Cutter Planter	130
14	Inter Row Rotary Cultivator Tiller	131
15	Stone Burier	132

Animal Drawn Automatic Sugarcane Planter



Features:

This animal drawn implement is suitable for planting straight cane sett and simultaneous application of granular fertilizer. It has separate provision for placing the cut sets and fertilizer. Metering mechanism gets its drive from the ground wheel and set of chain and sprockets. Furrow opening, placement of sets and covering of the sets is accomplished in a single pass. It saves 60 per cent labour, 65 per cent time of operation and 55 per cent cost of operation compared to conventional method of opening of furrow by tractor drawn ridger or two passes of bullock drawn country plough, manual sett cutting, dropping of sets, manual application of fertilizer and insecticides and sett covering by country plough and planking. It also results in 10 per cent increase in yield.

Specifications:

Dimensions (l x w x h) (mm)	: 1600x1150x900
Weight (kg)	: 75
No. of rows	: One
Seed metering	: Belt conveyor type
Fertilizer metering	: Fluted roller type
Power transmission	: Lugged ground wheel, chain and sprocket
Furrow opener	: Shoe type
Hopper capacity (m ³)	: 0.086 (225-250 sets of 350 mm length)
Power source	: One pair of bullocks

Performance results:

Seed rate (kg/ha)	: 5000
Width of coverage (mm)	: 900
Depth of placement (mm)	: 120
Operating speed (km/h)	: 2.2-2.8
Field capacity (ha/h)	: 0.1
Field efficiency (per cent)	: 30
Missing's (per cent)	: 10
Draft (N)	: 750 - 900
Labour requirement (man-h/ha)	: 110

Uses:

It is suitable for planting straight cane sett and simultaneous application of granular fertilizer.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 14, 258, 276, 231, 80, 90, 143

Rotary Weeder



Technical Specification

Function	:	For mechanical control of weeds in crops such as sugarcane, tapioca, cotton and orchards.
Specification	:	
i. Type	:	Self-propelled
ii. Power requirement	:	8.38 hp Diesel engine
iii. Overall dimensions	:	2400 x 1750 x 1100 mm
iv. Weight	:	200 Kg
v. Capacity	:	1 - 1.2 ha per day
General Information	:	A 8.38 hp diesel engine operates the weeder. The engine power is transmitted to ground wheels through V belt-pulley. A tail wheel is provided at the rear to maintain the operating depth. Weeding is done by the rotary weeding attachment. The rotary weeder consists of three rows of discs mounted with 6 numbers of curved blades in opposite directions alternatively in each disc. These blades when rotating enable cutting and mulching the soil. The width of coverage of the rotary tiller is 500 mm and the depth of operation can be adjusted to weed and mulch the soil in the cropped field.
Cost of the unit	:	Rs. 65,000
Salient features	:	• Useful for weeding between rows of crops like tapioca, cotton, sugarcane, maize, tomato and pulses whose rows spacing is more than 45 cm • Attachments like sweep blades, ridger, trailer can be used with the machine.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 40

Sugarcane Set Cutter



Function: For cutting sugarcane sett with single bud

Specification:

- i. Type : Motor operated
- ii. Power requirement : 8 to 10 hp Power tiller
- iii. Capacity : One sett / second
- Cost of the unit : Rs.2750/-
- Salient features : Reduce the cost of seed cane
Additional income from the budless internodes
Saving in cost: 45%
Saving in time: 70%
Cost of operation: Rs.240 / ha

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 68, 143.

Sugarcane Detrasher



Function: For de-trashing the sugarcane leaves.

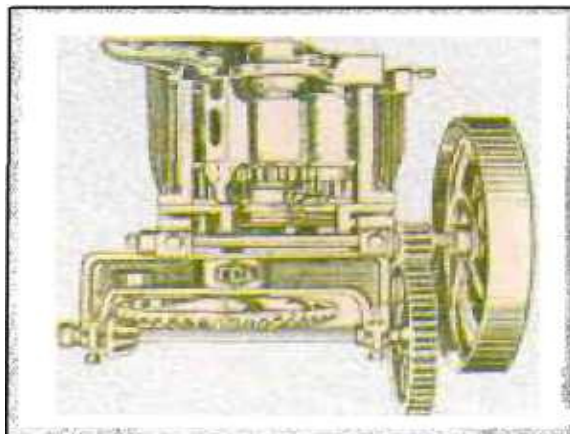
Specification:

i. Type	: Manual operated
Cost of the unit	: Rs.100/-
Cost of operation	: Rs.900 / ha
Salient features	: Labour requirement is less Easy for handling Reduced cost of de-trashing Used for all varieties of cane Also removes the sprouted buds Easy collection of de-trashed leaves

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 68

Sugarcane Crusher
(Vertical type)



Features

The vertical type sugarcane crusher consists of crushing roller, king and extracting roller. The crusher can be operated either by a pair of bullocks or electric motor stationary engine with gear drive. The rollers are made of special grade cast iron. The crushing roller has horizontal V-grooves on its periphery that help in crushing the sugarcane. The other rollers have straight grooved for extracting and removing juice.

Type	: Vertical rollers
Number of rollers	: 3
Roller dimensions (mm)	
(Diameter x length)	: Roller (1) 216 x 216, 230 x 216
Roller (2)	216x216, 230x216
Roller (3)	178 x 191, 165 x 180
Power requirement (hp)	: 5-6 or a pair of bullock
Crushing capacity (kg/h)	: 200 - 250 (bullock operated) 600 - 650 (power operated)
Weight (kg)	: 410-650

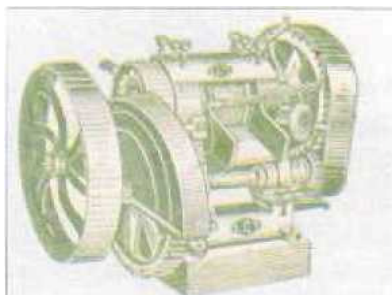
Uses

It is used for sugarcane crushing to extract juice.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer	: 66, 248, 292, 345, 63
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Sugarcane Crusher
(Horizontal type)



Features :

The horizontal type sugarcane crusher consists of crushing rollers, roller axles, and set of gears, side blades, trash blades and gear guard. There are three rollers, one for feeding and other two for crushing. The rollers are made of high-grade cast iron and V-grooved in order to hold the sugarcane. The rollers are held between cast iron side plates and mounted on heavy cast iron frame. The rollers receive power from motor or engine through a set of gears. The machine is operated by electric motor or stationary engine.

Specifications

Type	: Horizontal rollers
Number of rollers	: 3
Roller dimensions (mm)	
(Diameter x length)	: Roller (1) 222x 216, 236 x 254, 264 x 356
Roller (2)	152 x 216, 233 x 254, 251 x 356
Roller (3)	150 x 216, 233 x 254, 248 x 356
Power requirement (hp)	: 5-6 or a pair of bullock
Crushing capacity (kg/hr)	: 1850 - 2270 (sugarcane)
Weight (kg)	: 750

Uses

It is used for sugarcane crushing to extract juice.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer	: 66
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Sugar-Grinding-Machine



Power source : 5 hp AC Motor

Hammer Rotor Size : 14 inch

SS hopper with cyclon

Capacity : 150 kg/hr

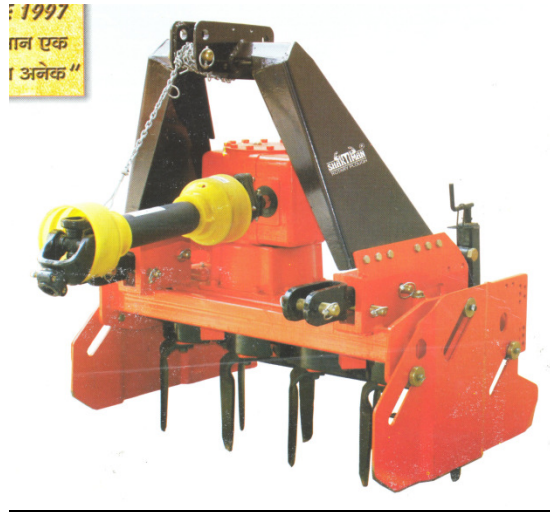
Weight : 500 kg

Working : Used for forage cutting

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture : 218

Rotary Plough



Technical Specification:

Working Width : 125 cm
Horse Power : 55 Hp
Weight : 500kg
No. of Tines : 10

Main Features:

- Swinging Brackets
- Universal Joint Power Transmission Shaft with shear bolt torque limiter
- Multi speed gearbox for 540 & 1000 RPM PTO
- Movable side plates
- Tines with 12mm thickness and 285 mm length
- Rear Leveling bar with pin or screw adjustment

Optional Items

- Rear packer roller
- Rear spikes roller
- Rear spiral roller (Starting from SRP-200)
- Universal Joint Power Transmission Shaft with clutch
- Single speed gear box for 540 rpm PTO

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 343

Hand Operated Sugar Cane Crusher



Main Features:

- This whole machine is made out of Cast Iron Material but the Crushing Rollers are made out of Food Grade Stainless Steel material.
- Suitable for Crushing of Sugar Cane Effectively & Efficiently.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture : 83

Sugarcane Crusher



Main Features:

- Sugarcane Crusher, which is used in fruit juice shops and restaurants to extract fresh sugarcane juice.
- These machines have the capacity of 1.5hp and hence deliver excellent performance.
- Through a reduction gearbox, the drive is transferred to a set of hardened steel gear wheels to the stainless steel crushing rollers.
- These machines are easy to use and help in extracting juices with utmost safety.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture : 205

Tractor Operated Multipurpose Equipment



Description

This is tractor-mounted equipment, which is mounted with three point linkage system. This can be lifted or lowered by the hydraulic system of the tractor.

This equipment can perform following operations.

- Land Preparation
- Cane Planting
- Intercultural
- Earthing-up
- Puddling

General Specifications

Length, cm 220

Width, cm 146

Height, cm 205

Weight, kg. 347

Technical Specifications

Power requirement: 5 hp and above

No. of row opener: 3

Row to row distance (cm): 75

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 115

Tractor drawn Sugarcane Cutter Planters



Technical Data

Particular	Slit type with ground wheel	Disc type* with ground wheels	Ridger type
Power Requirement Tractor, hp	25/35	25/35	35
Labour	4	4	4
Type of furrow opener	Tines with furrow guider	Disc with furrow guider	Ridger
No. of furrow openers	2	2	2<
Width of the furrow, cm	7-10	40-45	40-45
Row to row distance, cm	60-90	75 or 90	75 or 90
Source of power to drive sub units	Ground wheel	Ground wheel	Tractor pto
Field capacity, ha/h	0.25	0.25	0.25
Field efficiency %	65	65	65
Saving over conventional planting %	40	40	40

Specifications

Length, cm	175	185	204
Width, cm	150	150	162
Height, cm	220	220	211
Weight, kg	302	342	345

Use : It can also be used as Zero-till Sugarcane cutter planter

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 115

Inter Row Rotary Cultivator Tiller



Specification:

Machine overall width (mm)	: 1754
Working width (mm)	: 100
Machine weight (Kgs)	: 370
Overall Machine Height (mm)	: 1180
Max. PTO shaft rotations (per min)	:540
Required Tractor power (HP)	: 25
No. Rows	: 3to5
Quantity of oil (lit)	: 1.5
Type of oil	: SAE140
Oil change period (Hr)	:300
Sprocket Wheel (Chain Wheel)	
Quantity of oil (lit)	: 1.5
Type of oil	: SAE140
Oil change period (Hr)	: 300

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 180

STONE BURIER



Features:

1. Tractor operated Stone Burier is useful for both wet and field condition
2. This is an ideal machine for soil preparation for perfect seed bed, both for flat field crops (grass, turf) and for crops planting in beds. (Vegetables, etc.)
3. This is a genuine one-pass machine burying the small stones/ pebbles, residues of the previous crop.
4. The rubber top helps to avoid soil sticking and gives trouble free longer life.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 80

Cotton-Machinery

S.N	Name of Machinery for Cotton	Page.No
1	Animal drawn Kapas Ridger	134
2	Animal drawn Planter	135
3	Rotary weeder	136
4	Front mounted Self Propelled Boom Sprayer	137
5	Mobile Shredder (Chopper)	138
6	Inter Row Rotary Cultivator Tiller	139

Animal Drawn Kapas Ridger



Features: The ridger is more popular in the cultivation of cotton, therefore has been named as *kapas*ridger. The ridger consists of a sturdy frame, share, two mouldboards with tail, head wheel, double handle and hitch assembly. The share of the ridger is made from medium carbon steel or alloy steel and hardened to resist wear in the soil. The mouldboards are adjustable and the wingspan can be adjusted according to row width. Tailpieces are provided for increasing the furrow width. The head wheel regulates the depth of the furrow. For operation, the implement is drawn by a pair of bullocks; the depth of furrow is adjusted by the head wheel, width of the furrow is adjusted by the wingspan of mouldboard and tail pieces. The ridger has two handles, which helps in keeping the implement stable during operation. The furrow is formed in a single pass and the ridge in the return pass.

Specifications

Height (mm) : 720

Weight (kg) : 400

Width (mm) : 44

Uses

It is used for making ridges and furrows for cultivation in maize, sorghum, cotton, millets, cowpea, groundnut and other arable crops.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 228, 220, 48, 259, 282, 301, 299, 34, 53, 111, 188, 230, 265, 357, 9, 210, 234, 327, 213, 242, 328, 333, 23, 88, 153, 191, 209, 16, 45, 77, 318, 319, 90, 143, 8, 101, 120, 139

Animal Drawn Planter



Features

It is an animal drawn implement suitable for sowing groundnut, cotton, maize, sorghum and Bengal gram. It is provided with a seed hopper and cup type seed metering mechanism and hence able to maintain plant to plant spacing. The drive to the metering mechanism is through the ground wheel and chain and sprocket mechanism. A convenient handle is provided for guiding the unit while in operation. It can accommodate three shoe type furrow openers and the row to row spacing can also be adjusted as per the need of the crop. It saves 97.5 per cent labour and operating time and 73 per cent on cost of operation compared to conventional method of sowing behind the country plough.

Specifications

Dimensions (l x w x h) (mm)	: 1200 x 1100 x 950
Weight (kg)	: 60
No. of rows	: Three
Seed metering	: Cup feed type
Furrow opener	: Shoe type
Power transmission	: Ground wheel through chain & sprocket
Power source	: Pair of medium size bullocks

Performance results

	Machine	Conventional
Seed rate (kg/ha)	139	116
Width of coverage (mm)	900	150
Depth of placement (mm)	30-40	40
Operating speed (km/h)	2.1	2.5
Field capacity (ha/h)	0.19	0.05
Field efficiency (per cent)	74	80
Draft (N)	600	400
Labour requirement (man-h/ha)	5.3	20

Uses

It is suitable for sowing groundnut, cotton, maize, sorghum and Bengal gram.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 69, 94, 144, 147, 247, 76, 104, 215, 249, 260, 363, 97, 5, 12, 107, 145, 279, 300, 370, 370, 65, 211, 165, 310, 307, 356

Rotary Weeder



Technical Specification

Function	:	For mechanical control of weeds in crops such as sugarcane, tapioca, cotton and orchards.
Specification	:	
i. Type	:	Self-propelled
ii. Power requirement	:	6-8hp Diesel engine
iii. Overall Dimensions	:	2400 x 1750 x 1100 mm
iv. Weight	:	200 Kg
v. Capacity	:	1 - 1.2 ha per day
VI. Tilling Width	:	:40 to 80 cm
VII. Tilling depth	:	:8 to 10 cm
General Information	:	A 8.38 hp diesel engine operates the weeder. The engine power is transmitted to ground wheels through V belt-pulley. A tail wheel is provided at the rear to maintain the operating depth. Weeding is done by the rotary weeding attachment. The rotary weeder consists of three rows of discs mounted with 6 numbers of curved blades in opposite directions alternatively in each disc. These blades when rotating enable cutting and mulching the soil. The width of coverage of the rotary tiller is 500 mm and the depth of operation can be adjusted to weed and mulch the soil in the cropped field.
Cost of the unit	:	Rs. 65,000
Salient features	:	(1) Useful for weeding between rows of crops like tapioca, cotton, sugarcane, maize, tomato and pulses whose rows spacing is more than 45 cm (2) Attachments like sweep blades, ridger; trailer can be used with the machine.

List of Manufacturers: Please refer to Page-222-248 as per following:

82, 252, 34, 62, 111, 263, 11, 35, 155, 156, 350, 326, 194.

Front Mounted Self-Propelled Boom Sprayer



Features

It consists of chassis with ground drivesystem, diesel engine (5.5 hp), spray boomwith hollow cone nozzles, powertransmission system, and gear box, luggedcage wheels, chemical spray tank andpump. The pump and boom with 14nozzles are mounted on a stand, which canbe attached in front of the frame.

Specifications

Power source (hp)	: 5.5, Diesel engine
Boom length (mm)	: 6210
Number of nozzles	: 14
Type of nozzle	: Hollow cone
Nozzle pressure (kg/cm ¹	: 3
Distance between nozzles (mm)	: 300-600 (adjustable)
Chemical tank capacity (l)	: 50
Weight (kg)	: 140

Performance results

Speed of operation (km/h)	: 3
Field capacity (ha/h)	: 0.60
Field efficiency (%)	: 65
Application rate (l/ha)	: 500
Width of coverage (mm)	: 6500

Uses:

For uniform spraying in horticultural crops and other crops like cotton.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 86, 257, 356,143, 321, 256, 10, 57, 215, 260, 185, 186, 19, 82, 110, 119, 128, 148, 252, 317, 335, 352, 359, 44, 17, 34, 49, 53, 91, 99, 111, 146, 208, 222, 223, 224, 225, 251, 300, 336, 370, 11, 26, 95, 116, 217, 323, 39, 50, 156, 329, 356, 6, 7, 87

Mobile Shredder (Chopper)



Technical Specification:

Number of rows	: 1
Length (m)	: 2.70
Height with exhaust (m):	2.80
Height with exhaust folded down words (m):	1.35
Width (m)	: 2.00
Weight (kg)	: 660
Tyres	: Metal wheel 16x6
3 point hitch	: Category II
PTO (rpm)	: 540/1000 Rpm
Required power HP	: 35/50 HP
Exhaust direction	: 360 adjusted by manually
Chopping knives	: 12
Cutting knives	: 2
Cutting width	: 5mm
Capacity	: 10 tons/hour

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 343

Inter Row Rotary Cultivator Tiller



Specification:

Machine overall width (mm)	: 1754
Working width (mm)	: 100
Machine weight (Kg)	: 370
Overall Machine Height (mm)	: 1180
Max. PTO shaft rotations (per min)	: 540
Required Tractor power (HP)	: 25
No. Rows	: 3to5
Quantity of oil (lit)	: 1.5
Type of oil	: SAE140
Oil change period (Hr.)	: 300
Sprocket Wheel (Chain Wheel)	
Quantity of oil (lit)	: 1.5
Type of oil	: SAE140
Oil change period (Hr.)	: 300

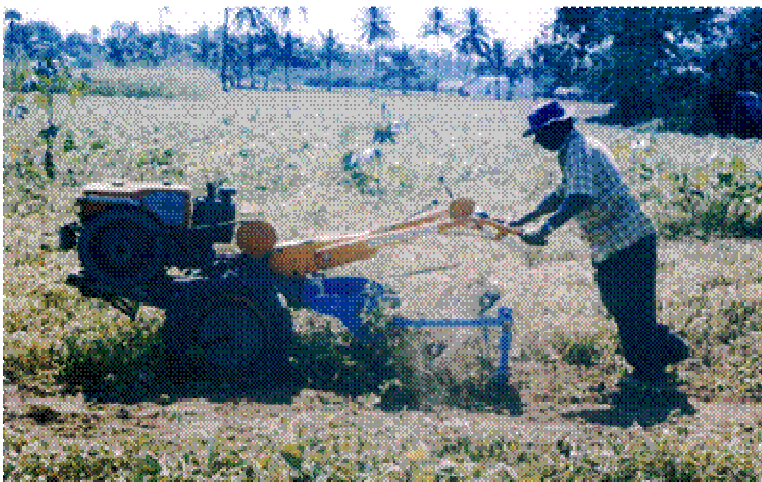
List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture : 80

Groundnut-Machinery

S.N	Name of Machinery for Groundnut	Page.No
1	Tiller operated groundnut harvester	141
2	Animal Drawn Ground Nut digger	142,143
3	Self Propelled Power weeder	144
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5	Front mounted Self Propelled Boom Sprayer	146
6	Impact type Ground nut Stripper	147
7	Ground Nut decorticator	148
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12	Horticulture Sprayer	152
13	Groundnut Digger shaker Windrower	153
14	Inter Row rotary Cultivator tiller	154
15	Roto Seeder	155

Tiller Operated Groundnut Harvester



Function: For harvesting groundnut

Specification:

i. Type : Power tiller operated

ii. Power requirement : 10 to 12 hp

iii. Capacity : 0. ha / day

Cost of the unit : Rs.12, 000/-

Cost of operation : Rs.700 / ha

Salient features : Suitable for harvesting all varieties of groundnut
Suitable for all makes of 10 to 12 hp power tiller
Saves time and labour
Savings in time: 90%
Savings in cost: 30%

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 80

Animal Drawn Ground Nut Digger



Features

It is an animal drawn implement suitable for harvesting groundnut and also potato. The digger is provided with a crescent shaped blade attached to a common square shank and fitted to a frame. It is provided with two steel wheels and a hand lever for depth control. It saves 89 per cent labour and operating time and 71 per cent on cost of operation compared to conventional method of hand pulling after irrigation.

Specifications

Dimensions (l _x w _x h) (mm)	: 3300 x 1100 x 750
Weight (kg)	: 120
No. of digging blades	: One
Length of cutting blade (mm)	: 575
Power source	: One pair of bullocks

Performance results

Width of cut (mm)	: 575
Depth of cut (mm)	: 110-200
Operating speed (km/h)	: 2.6-2.7
Field capacity (ha/h)	: 0.10
Digging efficiency (per cent)	: 98.6
Pod damage (per cent)	: 3
Draft (N)	: 750
Labour requirement (man-h/ha)	: 30

Uses:

It is suitable for harvesting groundnut and also potato.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 63

Animal Drawn Ground Nut Digger



Features

It is an animal drawn single row implement suitable for digging out groundnut vines. A V-shaped ridger type share is provided to dig out the vines. The lifter rods are attached behind the share. These lifter rods are spaced to allow the clods and residual material to drop while operating the implement. The plant along with pods is then collected manually. It saves 94 per cent labour and operating time and 60.5 per cent on cost of operation compared to conventional method of digging with spade and hand pulling. This implement has been widely adopted by groundnut farmers due to its efficient operation.

Specifications

Dimensions (l x w x h) (mm)	: 1750 x 300 x 570
Weight (kg)	: 10
Power source	: A pair of bullocks

Performance results

Width of cut (mm)	: 300
Operating speed (km/h)	: 2.74
Field capacity (ha/h)	: 0.16
Field efficiency (per cent)	: 61
Total pod losses (per cent)	: 5.7
Digging efficiency (per cent)	: 80-90
Draft (N)	: 500-600
Labour requirement (man-h/ha)	: 6.70

Uses

It is suitable for digging out groundnut vines.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer	: 167, 27, 96, 286, 350, 356
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Self-Propelled Power Weeder



Features

The self-propelled weeder consists of a box section chassis, 3-hp petrol -start- kerosene engine, transmission system, drive wheels, tool mounting bar of 70 x 70 mm size. The engine, gearbox and tool mounting bar are fixed to main chassis. The engine is mounted on front side of the chassis on proper foundation. The gearbox with transmission system is mounted in the middle of chassis. Two steel lugged drive wheels of 500 mm diameter and 110 mm width are mounted on both ends of hexagonal shaft connected to transmission box. The wheel tread (spacing between two wheels) can be adjusted from 400 to 650 mm to suit the row-to-row spacing of different crops. The V-shaped weeding sweeps of 150 and 200 mm size are fitted on tynes. These tynes are mounted on the tool bar with clamps. The tynes are raised or lowered for adjusting the depth of operation and locked in position by the clamp. The spacing between sweeps is easily adjusted by sliding the tynes on tool mounting bar to suit the crop row spacing. Power from engine is transmitted to gearbox through V-belt and pulleys. Inside the transmission box power is transmitted through chain and sprockets to two hexagonal drive shafts/ axles. A lever operated clutch idler pulley is used for tightening loosening of V-belt, transmitting the power from engine to transmission box. For operation, the tynes are adjusted to the raised position so they do not dig into the ground and the weeder is transported to the field. The tynes are adjusted according to the row spacing of the crop and depth of operation.

Specifications

Overall dimensions (mm)	: 2300 x 1000 x 850
Engine	: 3 hp petrol- start- kerosene-run
Chassis	: 70 x 70 mm box section chassis
Wheels	: Two steel lugged drive wheels of 500 mm diameter and

Performance Results

Weeding Efficiency (%)	: 65-70
Field capacity (ha/h)	: 0.15
Field efficiency (%)	: 60 to 70
Fuel Consumption (l/h)	: 0.70

Uses:

The CIAE self-propelled Power weeder is suitable for weeding and intercultural operations in upland row crops like groundnut, maize, soybean, pigeon pea, etc. sown at row-to-row spacing of more than 30 cm.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer	: 63
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Power Weeder



Features:

Power Weeder Ideal for yearly crops & row crops.

Technical Specification:

Tilling Width	: 30 cm
Tilling Depth	: 10-12 cm
Engine Type	: 2-stroke
Max Output	: 1.5-2.4
Displacement	: 35-42cc
Fuel Tank Capacity	: 0.9L

Useful for weeding between small rows of crops like paddy, corn, wheat, maize, groundnuts, sunflower, and vegetables whose rows spacing is between than 25 cm - 50 cm. This MAAXTM Power Weeder is very compact, lightweight and can go anywhere a person can go.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 232

Front Mounted Self-Propelled Boom Sprayer



Features

It consists of chassis with ground drive system, diesel engine (5.5 hp), spray boom with hollow cone nozzles, power transmission system, and gear box, lugged cage wheels, chemical spray tank and pump. The pump and boom with 14 nozzles are mounted on a stand, which can be attached in front of the frame.

Specifications

Power source (hp)	: 5.5, Diesel engine
Boom length (mm)	: 6210
Number of nozzles	: 14
Type of nozzle	: Hollow cone
Nozzle pressure (kg/cm ²)	: 3
Distance between nozzles (mm)	: 300-600 (adjustable)
Chemical tank capacity (l)	: 50
Weight (kg)	: 140

Performance results

Speed of operation (km/h)	: 3
Field capacity (ha/h)	: 0.60
Field efficiency (%)	: 65
Application rate (l/ha)	: 500
Width of coverage (mm)	: 6500

Uses: For uniform spraying in horticultural crops and other crops like groundnut.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 86, 257, 356, 321, 256, 10, 57, 215, 260, 185, 186, 19, 82, 119, 128, 148, 252, 317, 335, 359, 44, 17, 34, 49, 53, 91, 93, 111, 146, 208, 222, 223, 224, 225, 251, 291, 370, 11, 28, 95, 116, 217, 323, 39, 50, 156, 329, 6, 7, 87

Impact type Groundnut Stripper



Function: To remove groundnut pods from vines

Specification:

i. Type : Operated by 2.5 HP kerosene engine

ii. Power requirement : 10 to 12 hp

iii. Capacity : 0.4 ha / day

General Information : Operator assisted by two helpers Suit to the requirements of medium and small farmers
the vines are not fed into the stripper hence the fodder value of the vines is maintained

Cost of the unit : Rs.28, 000/-

Cost of operation : Rs.833 per ha.

Salient features :

Stripping efficiency : 100%

Damage to pods : less than 2%

Saving in labor : 37%

Saving in cost : 17%

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 350, 239, 240

Ground Nut Decorticator



Features:

It consists of an oscillating sector with sieve bottom and a handle. Ten numbers of cast iron peg assemblies are fitted in the oscillating sector unit. The groundnut pods are shelled between the oscillating sector and the fixed perforated concave screen. The decorticated shells and kernels fall down through the perforated concave sieve, are collected at the bottom of the unit, and separated manually by winnowing.

Specification

Length (mm)	: 625
Width (mm)	: 310
Height (mm)	: 1320
Type	: Hand operated
Power requirement	: Manual, one person
Capacity (kg/h)	: 200

Uses

To shell groundnut pods and separate kernels.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 36, 257, 14, 75, 187, 258, 276, 97, 223, 310, 286, 151, 285, 296, 350

Groundnut Thresher



Sr. No	Parameter	Observation
(i)	Specifications	
	Prime-mover Type	: Four stroke diesel engine
	Type of Drive	: Belt Drive
	Frame Dimensions (mm)	: 2390 x 916 x 1440 (length x width x height)
	Type of Crop feeding system	: Hopper
	Size of feeding hopper (mm)	: 811 x 317
	Feeding Platform	
	- Size of platform (mm)	: 1010 x 795 x 115
	- Height of platform from G.L.(mm)	: 1560
	- Height of hopper (mm)	: 620
	- Height of feeding hopper from G.L.:	2554
	Threshing Cylinder	
	Type	: Beater
	Size of cylinder (mm)	: 700 x 555 ϕ
	Threshing cylinder speed	:
	- Rotational (rpm)	: 400
	- Peripheral (m/s)	: 11.6
	Main shaft	
	Material & size (mm)	: MS rod, 1375 x 50.7 ϕ
	No. type of bearings on shaft	: Two, Ball bearings
	Concave	
	Peripheral length (mm)	: 979
	Effective length (mm)	: 849
	Total width (mm)	: 802
	Effective width (mm)	: 764
	Effective area (sq. M)	: 0.649
	Concavity (mm)	: 235
	Blower	
	No. of blower	: One
	Type	: Suction type
(ii)	Lab. Performance Result	
	Hourly Fuel Consumption	: 1.14 to 1.35 l/hr.
	Cleaning efficiency	: 90.70 %
	Threshing efficiency	: 99.44 %
	Power Requirement	: 799 to 832 rpm

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 86, 257, 14, 75, 187, 258, 276, 97, 223, 310, 286, 151, 285, 296, 350

Bund Forming Machine



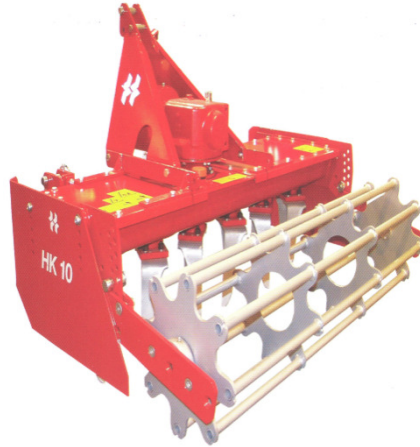
Features:

The Bund Former will strengthen the existing bund without damaging the height of the bed by adding on the sideways. This machine is suitable for both dry and wet conditions. The power required to operate this machine is about 40-50hp with 540rpm at PTO. The height of the bund is 25-30 cm.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 80

POWER HARROW



Features:

- Highly useful for horticultural farms, green house cultivation and hi-tech gardening.
- Equipped with rear cage rollers
- Working depth is adjustable
- Side guard are easily adjustable in relation with size working depth
- Equipped with 540rpm gearbox
- Blade size- 250X 10 mm

Specifications:

Working width (m)	1.0
Transport width (m)	1.12
Power Requirement (Hp)	40-80
Number of Blades	8
Weight without cage roller (Kg)	275
Weight with cage roller (Kg)	320

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 80

CENTRIFUGAL PUMP



Specification:

Pump Size: 2.5" x 2.5" & 3" x 2.5"
Discharge: 9 to 49 lps
Head range: 21 to 29 Mtrs
High Head: 3000 to 10000 feet

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 57

HORTICULTURE SPRAYER



Features:

30 to 40 feet height Covered with H. T. P. Pumps Enable Spray for Apple, Mango and Chiku etc.

Specification:

Diesel Consumption: 0.75 Ltr. / Hour
Capacity: 2 Gun will be used at a time
Tank: 200 Ltr

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 57

GROUNDNUT DIGGER SHAKER WINDROWER



Specification:

HP Requirement:	45 hp tractors and up with Cat. II Hitch.
Digging capacity:	Approximately 1.5-2 acres per hour at recommended ground speed of 4.8-5.6 km/hr
Weight:	540 kgs
Dimensions:	Width- 84.1/2", Length- 103", Height-66"
Main Frame:	Welded, tubular steel, cat. II hitch, 3-Point.
Gear box:	540Rpm standard, optional 1000rpm available. Complete with tractor and implement end telescoping PTO shaft.
Drive:	Dual V-belt with adjustable idler. Chain drive 20-bar rattler bar assembly.
Windrowing rods:	Adjustable for crop conditions. Designed for clog-free operation
Plow standards:	High-strength steel with blade pitch
Gauge wheels:	Bolt type adjustment with tube Tyres, factory-mounted

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture:	216
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Inter Row Rotary Cultivator Tiller



Specification:

Machine overall width (mm)	: 1754
Working width (mm)	: 100
Machine weight (Kgs)	: 370
Overall Machine Height (mm)	: 1180
Max. PTO shaft rotations (per min)	: 540
Required Tractor power (HP)	: 25
No. Rows	: 3to5
Quantity of oil (lit)	: 1.5
Type of oil	: SAE140
Oil change period (Hr)	: 300
Sprocket Wheel (Chain Wheel)	
Quantity of oil (lit)	: 1.5
Type of oil	: SAE140
Oil change period (Hr)	: 300

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 180

ROTO SEEDER



Specification:

Overall width (Inch) : 70
Working width (inch) : 55

Weight

Hitch Type : Category 1 & 2
Hp Required : 40-45 HP
Gear Box Option : Multi Speed
Side Transmission : Chain Drive
Working Depth : 2" (5 cm)/ 6" (15cm)
No. of Flanges : 6
No. of Blades : 36

PTO Speed : 540/1000 rpm

Seed Capacity (kg) : 58

Fertilizer Capacity (kg) : 60

Seed Fertilizer Distribution : Broadcasting

Seed Fertilizer Metering Device: Broadcasting

Ground Wheel : One 24" Diameter spiked roller with spring to maintain with spring maintain contact with ground

Benefits:

1. Saves working time and slashes fuel costs.
2. Can be operated either in wet or dry soil conditions for preparing seed bed.
3. Improves soil health.
4. Provides perfect tilth.
5. Improves productivity and yield.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 341

Vegetable – Machinery

S.N	Name of Machinery for Vegetables	Page.No
1	Animal drawn Potato Planter	157
2	Potato slicer	158
3	Potato Planter	159
4	Screw De-Stoner	160
5	Carrot Flipper	161
6	Carrot Topper	162
7	High capacity Carrot Harvest machine	163
8	Harvest Machine	164
9	Vegetable & cabbage cutting machine	165
10	Fruit Pulper	166
11	Vegetable Cutter	167
12	Cabbage Cutting Machine	168

Animal Drawn Potato Planter



Features:

It is a rotating sector type planter suitable for making ridges and planting potato in the ridges. The planter has a seed box fitted on the machine in which the seed tubers are stored. One operator sits on the machine and places the seed tubers on the rotating sector from time to time. The tubers are placed on the ridges and get covered by the two discs in a single pass of the machine, thus ensuring uniformity of planting and saving labour and time. It saves 50 per cent labour, 85 per cent operating time and 60 per cent on cost of operation compared to conventional method of placement of seed in rows by making ridges manually. The performance was evaluated at IISR and it was found satisfactory.

Specifications:

Dimensions (l x w x h) (mm)	1150 x 1000 x 950
Weight (kg)	: 75
No. of rows	: One to two
Seed metering	: Rotating sector
Power transmission	: Ground wheel
Furrow opener	: One pair of discs
Seed hopper capacity (kg)	: 20°

Performance results

Seed rate (kg/ha)	: 600
Width of coverage (mm)	: 900
Depth of placement (mm)	: 140
Operating speed (km/h)	: 1.5
Field capacity (ha/h)	: 0.1
Field efficiency (per cent)	: 70
Missing's (per cent)	: 10 - 10
Labour requirement (man-h/ha)	: 40

Uses:

It is suitable for making ridges and planting potato in the ridges.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 157, 85, 43, 98, 131, 132, 27, 42, 72, 73, 74, 96, 122, 137, 184, 226, 228, 270, 271, 305, 328, 330, 307, 90, 243

Potato Slicer



Features

The potato slicer consists of a rotating disc, which carries radial knives and revolves on a vertical shaft. Over this disc, vertical cylinders are mounted for feeding the potatoes. It is mounted on a frame made of mild steel angle sections and rotated with a handle provided on the top. It consists of mainframe, four cylinder and pressing device. It can accommodate potato up to 75 mm diameter.

Specifications

Overall Dimensions

Length (mm)	: 625
Width (mm)	: 600
Height (mm)	: 910
Weight (kg)	: 30
Capacity (kg/h)	: 30
Labour requirement (man-h/q)	: 3.3

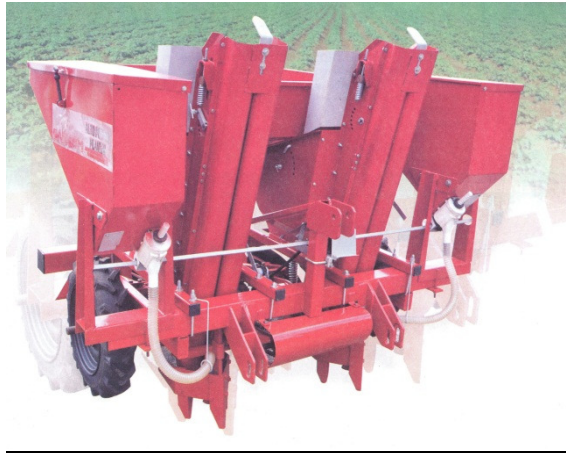
Uses

It is used for slicing of potatoes for making chips and wafers.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 63

POTATO PLANTER:



Features:

Automatic Potato planter are ideal planting machine for small and big farms and suitable for minimum 45 HP tractors. Ability to make bed with disc and mouldplough, quick and easy adjustments together with many other features make these planters superior in planting performance.

Technical specification:

Rows (Nos.):	2
Row Width:	20-21-22-23-24-25-26-30
Seed Distance (Inch)	
Single Seed:	2, 2.5, 3, 4, 5, 6
Double Seed:	5, 6, 8, 9, 10, 11
Potato Hopper Capacity (Kg):	300
Fertilizer Hopper Capacity (Kg):	100
Seed Depth (Cm):	4-5
Planting Capacity (Acre/hr.):	1 to 1.5
Power (HP):	45
Dimension (LxWxH) (Inch):	75" X 81" x 66"
Weight (Kg):	480

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 85

SCREW DE-STONER



Screw de-stoners covering a wide range of products such as potatoes, carrots, celeriac and red beets. With the screw de-stoner products like potatoes and carrots with a diameter of max. 200 mm can be processed.

FEATURES

- Simple and effective no damage to the product
- Low water consumption (approx. 100 l per 1.000 kg / 12 gallons/1,000 lbs.)
- extremely durable, hard wearing and reliable
- ease of access for cleaning

CAPACITY

The capacity of the machine depends on the size of the product, and can be max. 5 tons/hour (11,000 lbs. /hr.).

TECHNICAL DATA

Voltage:	230/400 V, 50/60 Hz, 3 ph
Total installed power:	2,2 KW
Screw diameter:	500 mm / 20"
Weight:	± 500 kg / 1,100 lbs
Dimensions:	L x W 1.400 x 1.000 mm (55"x39")
Height:	to be specified at ordering

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 311

CARROT FLIPPER



This machine assesses the orientation and length of each individual carrot. Any carrots facing the wrong direction are rotated by 180°.

PRODUCT SPECIFICATION

The Carrot Flipper is suitable for carrots with a diameter between 20 and 60 mm (0,78"- 2,36").

CAPACITY

The capacity of the Carrot Flipper is based on the shuffle product singulator type PVW and is approx. 4.500 pieces/hr.

TECHNICAL DATA

Voltage:	230/400 V, 50/60 hz, 3ph
Total installed power:	0.2kW
Weight:	±105 Kg (231 lbs)
Dimensions (LxWxH):	1.050x700x1.600 mm (41"x28"x63")
In feed height:	1.020 mm (40")

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 311

CARROT TOPPER



A basic machine with hand feeding and hand positioning of carrots. Cuts off the tops from the carrots at a capacity of 60 carrots per minute.

FEATURES

- adjustable topping control
- hygienic design,
- easy to clean and disinfect
- heavy duty construction

PRODUCT SPECIFICATION

The WO-1 processes carrots with a diameter of 30 to 75 mm and a maximum length of 380 mm.

CAPACITY

The capacity of the WO-1 is approx. 60 carrots per minute.

TECHNICAL DATA

Voltage:	230/400 V, 50/60 Hz, 3 ph
Total installed power:	0.8 KW
Weight:	approx. 280 kg (616 lbs)
Dimensions (LxWxH):	2.000 x 830 x 1.570 mm (79"x33"x62")
Belt height:	1.000 mm (adjustable +/- 100 mm) / (39" adjustable +/- 4")

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 311

High capacity carrot harvest machine



Features

- 1: this machine can harvest carrot and potato
- 2: easy operate and high capacity

Specifications

Model	4U—1300
Working row	2
Working mode	Casting
working width	130cm
Working Efficiency	5--8(mu/hr)
Net weight	700kgs
Matched tractor	4 wheeled tractor
Matching power	35--80HP
Working depth	25cm
Exposing rate	≥96%
Breakage rate	≤2%
PTO speed	560rpm
Overall dimension(mm)	2300*1800*1000
Packing size(mm)	2100*1600*700/2
Qty of 40HQ	50
Ex-work (RMB)	8800
MOQ(sets)	2

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 166

Harvesting machine

This machine is for the potato harvester, the main variety will be potato, garlic, sweet potato, carrot, peanuts and all the crops. With high capacity, low broken rate. Long life span could get rid of the mulching film automatically.



Features:

- 1.Cheap price
- 2.Good quality
- 3.Easy handle

Specifications:

The whole size of the machine (mm):1450×1150×900

Weight (kg):	230
Motor (hp):	20—35HP tractor
Capacity (/h):	2600 /h
Speed of rate (r/min):	360
Depth(cm):	20—30
Width of harvester (cm):	60—85
Space between ridges (cm):	90—120
Rate:	99.5%

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 264

Vegetable & Cabbage cutting machine



Main Features:

Cutting the vegetable into half evenly, continuous. The effect is good.

1. Used in the cabbage cutting into half.
2. For the Kimchi processing lines use.
3. Can cut the vegetables evenly.

Specifications:

Size:	2500*800*1300 (mm)
Voltage:	380(v)
Power:	2.2(kW)
Frequency:	50(Hz)
Production capacity:	3-4(t/h)

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 277

Fruit Pulper



Main Features:

Applications: For pulping of many of the fruits and vegetables to make course pulp or fine pulp.

Capacity: Generally 50kg to 1000kg per hour

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 1

Vegetable Cutter



This cutter is used for the process of cutting the vegetables in an efficient manner and also rapidly.

Features:

- Portable and light weighted
- Affordable cost

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 201

Cabbage cutting machine



Features:

This is professional cut sour pickled cabbage machine.

It can process 4-5 tons sour pickled cabbage, Stainless steel body, Easy to clean and Easy in operation

Specifications:

Voltage:	220V/380V
Motor power:	0.7 5kW
Spindle speed:	460/1460/sec.
Net weight:	65 KG
Specification:	760 x 560 x 1060 cm
Conveyor belt power:	0.75 kW
Conveyor belt specifications:	1740 x 670 x 410 cm

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 277

Horticultural Tools

S.N	Name of Horticulture Tools	Page.No
1	Areca Sprayer	170
2	Oil palm Harvesting Tool	171
3	Mulberry Stem cutter	172
4	Manual operated Lawn Mover	173
5	Sickle	174
6	C-cutter	175
7	Hand Press Citrus Fruit Juicer	176

Areca Sprayer



Function: To spray chemicals in Arecanut trees. The spray fluid is supplied from a rocker arm sprayer. Suitable for spraying trees up to a height of 18 meters.

Specification:

- i. Type : Manually operated and easily transportable.
- ii. Power requirement : A team of three persons.
- iii. Overall dimensions : 600 x 600 x 1500 mm
- iv. Weight : 22 kg
- v. Capacity : 20 trees per hour

General Information : The sprayer has a telescopic aluminum boom which can extend from 8m to 16m height by winding a cable. The boom is mounted on a supporting frame. The entire boom can be rotated to spray in all directions around the boom. The nozzle can be angled up or down by a remotely actuated pneumatic actuator. The spray fluid is supplied from a rocker arm sprayer. A team of three persons will be required for spraying operation.

Cost of the unit : Rs.15, 000/-

Salient features : It can be used for spray chemicals for arecanut trees.
Suitable for spraying trees up to a height of 18 meters.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 240

Oil Palm Harvesting Tool



Cost of the unit : Rs.800/- including 10 feet aluminum pole. **Function:**For harvesting of oil palms.

Specification:

i. Type : Manual operated unit

ii. Power requirement : One male

iii. Capacity : 144 bunches / day

General Information : The sprayer has a telescopic aluminum boom which can extend from 8m to 16m height by winding a cable. The boom is mounted on a supporting frame. The entire boom can be rotated to spray in all directions around the boom. The nozzle can be angled up or down by a remotely actuated pneumatic actuator. The spray fluid is supplied from a rocker arm sprayer. A team of three persons will be required for spraying operation.

The operator can work for long time continuously without fatigue

Cost of operation : Rs.1.11 / fresh fruit bunch

Salient features : The sickle can be attached to as well as detached from long aluminium poles of various lengths as per the height of the tree

Saves cost and time

50% more bunches harvested than conventional method

Savings in time: 51%

Savings in cost: 33%

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 240

Mulberry Stem Cutter



Function: To cut the mulberry stem for planting

Specification:

i. Type : Hand cum pedal operated unit.

ii. Power requirement : One male

iii. Overall dimensions : 750 x 600 x 1050 mm

iv. Weight : 26 kg

v. Capacity : 2400 stems per hour

General Information : The unit consists of a wooden platform in which a cutting knife is fixed by means of a hinge. The knife is operated by means of a long handle. Stems are placed on the platform at an angle of 45° and they are cut by pressing the handle. The handle reaches its original position by the action of a spring attached to the other end.

Cost of the unit : Rs.4, 000/-

Salient features : The stems are cut easily without damage.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer : 240

Manual operated Lawn Mower



Features:

- Ultra-light weight
- Available in two models
- Easy 28-300mm cutting width
- Easy 38-380mm cutting width
- Too less cutting Adjustment up to 12-21-30mm
- High impact Plastic Wheels with Rubber Tyres
- Grass Collecting Box
- Six Blade Cutting Cylinder

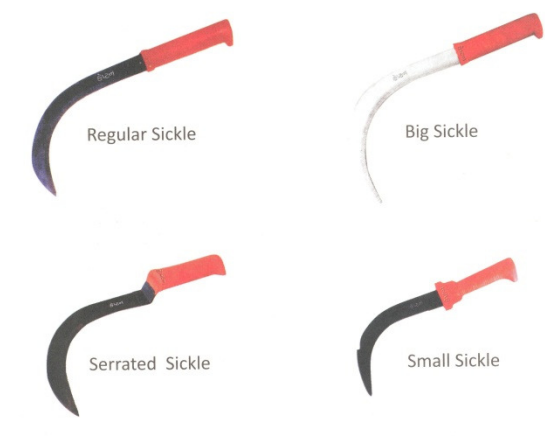
Technical Specifications:

Model	Easy 38
Type	Manual Lawn Mower with Rotary Cylinder
Net Weight	12kg
Gross Weight	14.70kg
Cutting Width	38cm
Cutting Height	12-30mm (3 cutting heights adjustments at 12-21-30mm without using any tool)
Cylinder Suspension	Ball Bearing
Power	500W
Wheels	High impact plastic wheels with Rubber Tyres
No. of cuts per meter	40
Handle	2 parted powder coated pipe handles
Grass Collector	Made of quality virgin plastic
Paint	Powder Coating
Packing	Mower with all assemblies packed in one single carton.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 78

SICKLE



Main Features:

Quality: Cold rolled, En/9 Material, made by Temper and blackening system

Maintenance: No need to Sharpen, long term grooved make.

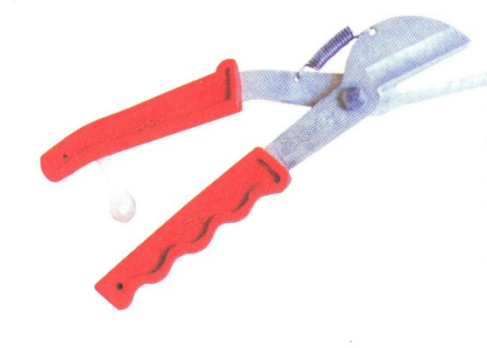
Durability: Strong blade & Plastic handle.

Weight: Only 130gm gives smooth work, no fatigue.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 57

C-CUTTER



Main Features:

- Strong blade with steel plate.
- Made of Temper & Hardness Treatment.
- It can cut castor-Bunch & Every Type of Vegetable.
- It can cut Castor-Bunch & Every Type of Vegetables.
- 1 Year replacement Warranty.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 57

Hand press Citrus Fruit Juicer



Whole machine made out of Aluminum. Suitable for Extracting Juice from Sweet Lime, Lemon etc.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 83

Tea/Coffee- Machinery

S.N	Name of Machinery for Tea /Coffee	Page.No
1	Hand operated Coffee Pulper	178
2	Hand operated Coffee Huller	179
3	Hand operated Aluminum Fruit Juicer	180
4	Coffee Grader	181
5	Coffee Huller	182
6	Brush cutter	183
7	Hand rotary duster	184
8	Foot sprayer	185
9	Power Sprayer	186
10	Motorized Knapsack Mist blower	187
11	Thermal Fogger	188

Hand Operated Coffee Pulper



Features

This small Pulper have been designed to cater to the needs of very small farmers, who have a need for small hand operated equipment in an environment where to basic infrastructural facilities are available.

Capacity: 100 kgs /Hr

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 83

Hand Operated Coffee Huller



Features:

Sample hulling of Dry CherryIs done using this Huller to determine the coffee bean yield.

Capacity: 15 - 25 kgs./Hr

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 83

Hand Operated Aluminum Fruit Juicer



Main Features

Suitable for roasting of Coffee, Nut, Spices, red Chilly etc.,
Brum Capacity : 5Kgs & 15 kgs
Fuel : Fire wood/Charcoal

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 83

Coffee Grader



Graders are used to grade food grains by virtue of their size. Used in a variety of grading applications including coffee, the grader is available in single and deck versions depending on the number of graders required and capacity.

Advantages

Large screens with perforation lowest tolerance of any wanted size, round and oblong hole perforations according to the customer standard. Automatic cleaning of the screen by means of massive rubber balls underneath every screen.

Coffee Grades Screen Size

- AAA :- 7.50 Round Holes
- AA :- 7.14 Round Holes
- A :- 6.65 Round Holes
- B :- 6.00 Round Holes
- C :- 5.00 Round Holes
- Bits:- 3.50 Round Holes
- P Bre1 :- 4.75 Round Holes
- P Bre2 :- 4.30 Round Holes

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 203

Coffee Hullers



Special features

- Top rate hulling capacity on account of a six – armed cross beater rotating in perforated hulling drum
- Perfect separation of hulled coffee by using husk separation blowers
- High speed oscillating table

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 203

Brush Cutter



Features:

The Brush Cutters provides accurate cutting speeds with less fatigue. Also, the vibration is considerably dampened for long hours of comfortable use and the load balancing system reduces stress on sensitive areas. These brush cutters are durable and their ease of maintenance brings peace of mind even in the toughest of jobs.

Technical Specification:

Engine	: Air-cooling, 2-Stroke, Single Cylinder
Displacement	: 32.6cc
Engine Power	: 0.9kw/6500-7000r/min
Carburetor	: Diaphragm Type
Fuel Tank Capacity	: 1350 ml
Fuel/oil Mixture Ratio	: 25:1
Machine Weight	: 3.5 kg
Engine Weight	: 8.7 kg

Uses:

1. Cutting Grass, Maize, Paddy, Sugarcane
2. Tea pruner
3. Pole pruner
4. Pole trimmer
5. Nylon cutter
6. Olive shaker

Additionally, customers are eased with the availability of the Walk behind Brush Cutter with latest configurations ensuring easy operation and low maintenance cost. These brush cutters are durable and their ease of maintenance brings peace of mind even in the toughest of jobs.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturers: 99, 232, 80, 351, 256, 252

HAND ROTARY DUSTER



Features

The hand rotary duster is available in two models, shoulder mounted and belly mounted. It is a common type of duster being used by the farmers. The duster consists of a hopper, fan/blower, rigid/flexible discharge pipe, reduction gearbox, rotating handle, shoulder straps, and metering mechanism. The hopper is either made of plastic or aluminium. The hopper made from mild steel sheet is coated with anti-corrosive material for longer life. The duster has mechanical agitator connected to the gearbox placed in the hopper, which chums the chemical and prevent clogging of the outlet. The adjustable orifice plate mounted below the hopper outlet controls the application rate. The fan/blower is enclosed in the casing and is rotated with the handle through gearbox. For operation, the hopper is filled 1/2 to 3/4th of the capacity of the hopper. This is mounted on the shoulder/belly with the help of adjustable straps. The discharge pipe fitted with spoon type deflector is directed towards the target continuously rotating the handle. The chemical in dust/powder form drops from the hopper in the discharge pipe having an air stream created by the blower. These dust particles emerging in, the form of cloud from the discharge pipe is carried to the plant where these settle on the leaves, stems and other parts.

Specifications

Overall length (mm)	: 280
Overall width (mm)	: 330
Overall height (mm)	: 330
Weight (kg)	: 3.5
Hopper capacity (l)	: 5
Field capacity (ha/ day)	: 0.6 (for field crops)

Uses

For control of pests and diseases by use of chemicals in the dust forms in nursery, vegetable gardens, field crops, tea and coffee plantations, green houses, glasshouses and godowns.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 335, 63, 53, 91, 224, 116, 366

Foot Sprayer



Features

The foot sprayer is one of the ideal and versatile sprayers used for multiple spraying jobs. The principle of working is similar to the rocker sprayer. The sprayer consists of a pump operated by the foot lever, suction hose with strainer, delivery hose, spray lance fitted with shut off pistol valve, gooseneck bend and adjustable nozzles. The pump barrel is mounted on a steel frame, which provides it stability when placed on the ground. It has a provision of two strong springs, which retract the foot lever to its original position after each pumping stroke. The sprayer does not have an inbuilt tank, therefore an additional storage device or container is required to store the spray liquid in which the strainer suction hose remains submerged. It has provision for the two discharge lines, which increase its versatility and field capacity. The plunger pump being a positive displacement pump, builds up a high pressure to throw spray liquid to larger distances with a suitable boom. The pump barrel, lance and the spray nozzle are made from brass alloy. For operation the inlet pipe is placed in the storage container and one person continuously operates the pump by foot lever. There is a provision for the operator to hold the sprayer at the top by V-type fixture. The other person directs the lance to the target. For spraying tall trees up to a height of 10m, a high jet or bamboo lance can be used.

Specifications:

Overall length (mm)	: 440
Overall width (mm)	: 170
Overall height (mm)	: 980
Weight (kg)	: 10.0
Pressure developed (kg/cm ²)	: 14 -18
Field capacity (ha/day)	: 1 (with one lance) and 1.5-2.0 (with two lances)

Uses

The foot sprayer is all purpose sprayers, suitable for both small and large scale spraying on field crops, in tea and coffee plantations, orchards, vegetable gardens, rubber estates, flower, crops, nurseries etc.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer	: 63
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Power Sprayers



Features

Power sprayers are used for developing high pressure and high discharge for covering large area. These sprayers are either operated by auxiliary engines or electric motors. Most of these sprayers are hydraulic sprayers and consist of power unit to drive the pump, pump unit which employs piston or plunger pump, piston (1 to 3), pressure gauges, pressure regulators, air chamber, suction pipe with strainer, delivery pipes fitted with lance, gooseneck bend and nozzles. The portable sprayers use petrol engines so that these can be easily taken to the spray sites. The complete assembly is mounted on the stretcher type frame or on wheel barrow for easy transportation. The number of lances may vary from 1 to 6 depending upon the model. In some models there is a built in storage tank of fibreglass having capacity of 100 litres, while in others a separate storage tank is required in which the suction pipe of the sprayer remains submerged. For operation, the shut off trigger valve of the lance is closed and the engine/electric motor is started to actuate the pump. The pump draws the spray liquid from the tank, imparts pressure energy and sends it to the delivery line/lines. The operator directs the lance towards the target and operates the trigger/shut off valve. Adjusting the nozzle or selecting the appropriate nozzle, adjusts the spray pattern. For delivering the spray liquid to large distances/height a bamboo lance can also be used.

Specifications

Overall length (mm)	: 740
Overall width (mm)	: 610
Overall height (mm)	: 990
Number of spray lance	: up to 6
Discharge (l/min)	: up to 25
Field capacity (ha/h)	: 0.2 – 0.3
Weight (kg)	: 66.0
Pressure developed (kg/cm ²)	: up to 40
Power required (hp)	: 3

Uses

These sprayers are suitable for spraying in orchards, tea and coffee plantations, rubber plantations, vineyards and field crops. Tall trees up to a height of 15 meters can be sprayed with these types of sprayers.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer: 225, 215, 260, 185, 82, 91

Motorised Knapsack Mistblower



Features

The motorized knapsack mist blower has a small 2-stroke petrol/ kerosene engine of 35 cc to which a centrifugal fan is connected. The centrifugal fan is usually mounted vertically. The fan produces a high velocity air stream, which is diverted through a 90-degree elbow to a flexible (plastic) discharge hose, which has a divergent outlet. The spray tank that has also a compartment for fuel and engine-fan unit is mounted on a common frame, which fits to the back of operator. The tank is made of plastic. The spray liquid flows due to gravity and suction created at the tip of nozzle, thus remains in the air stream. Some models of the sprayers have roller pump for pumping the spray liquid into the discharge hose and have tall tree spraying attachment. These sprayers have shear type nozzles. For operation, the tank is filled with the spray liquid and cranking with the rope starts the engine. Upon rotation of the engine the fan produces a high velocity air stream. The control valve for the spray liquid is opened gradually and adjusted for the desired flow rate. The operator directs the discharge hose to the target. The spray liquid that falls in the air stream gets sheared and upon coming in contact with the atmosphere a mist is produced.

Specifications

Overall length (mm)	: 460
Overall width (mm)	: 220
Overall height (mm)	: 670
Weight (kg)	: 11.0
Air velocity at the outlet (m/s)	: 65 – 75
Horizontal range (m)	: 10 – 15
Vertical range (m)	: 6 – 8
Power (hp)	: 1.2
Fan output (m ³ /min)	: 7
Field capacity (ha/h)	: 3

Uses

It is used for spraying in orchards, tea and coffee estates and tall crops.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacturer	: 232
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THERMAL FOGGER



Specifications:

Type of Switch: Selenite switch and Chrome finish

Performance of combustion chamber: 18.6 KW/25.2 HP

Fuel Consumption: 1.5 L/H

Fuel Tank capacity: 1.5 Lit.

Dimensions (L X W X H mm): 1370 X 270 X 315

Solution Tank Capacity: 5 lit.

Pressure in Solution tank: 0.25 bar

Pressure in fuel tank: 0.06 bar

Batteries: 4 X 1.5V

Solution Output: 8-42 L/H

Weight (Empty): 8.2 kg

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 127

Spices Machinery

S.N	Name of Machinery for Spices	Page.No
1	Hand operated Aluminum Fruit Juicer	190
2	Roller flaker	191
3	Spice Grinding Mill	192
4	Spice plant	193
5	Spice Grinding Machine	194

Hand Operated Aluminum Fruit Juicer



Main Features

Suitable for roasting of Coffee, Nut, Spices, red Chilly etc.,
Brum Capacity : 5Kgs & 15 kgs
Fuel : Fire wood/Charcoal

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 83

Roller Flaker



Main features:

- Heavy duty roller flaker works on the principle of pressing material in between cylindrical rollers/grooved rollers to make flakes of material.
- Rollers are made of hardened special steel and machined with high precision.
- They are mounted on a robust and heavy structure to withstand enormous pressure and vibration during operation.
- The gap and pressure between the rollers can be altered easily.

Applications: For flaking turmeric, paper, ginger maize fenugreek, herbal materials, etc.

Capacity: Flakers of various capacity are available and manufactured as per the customer

Requirement. Eg: Ginger – 200 to 1500 kgs/hour.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 206

Spice Grinding Mill



Features:

1. Fine spice grinding mill is specially designed for fine grinding of various spices.
2. This spice grinding machine can handle various spices like chilies, turmeric, coriander, mixed spices (for curry powder), dehydrated onions, garlic, ginger, black pepper etc.
3. It also grinds foodstuff & various ayurvedic herbs & roots.
4. To maintain the spice properties to its optimum level, a two stage-grinding operation is recommended.
5. First stage coarse grinding with a 3 to 5mm screen followed by second stage fine grinding through a 0.5/0.8 mm screen.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 164

Spice Plant



Silent features:

- Retention of important properties of spices like taste, flavor and colour.
- Maintains uniform quality of product.
- Easy and economical dust free operation.
- Wide range of production capacities.
- Easy and economical maintenance.
- Sturdy construction.
- Ready availability of spares.
- Reliable after sales service.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 164

Spice Grinding Machine



Salient Features: -

- Retention of important properties of spices like taste, flavor and colour
- Maintains uniform quality of product.
- Easy and economical dust free operation
- Wide range of product.
- Easy and economical maintenance.
- Sturdy construction.
- Ready availability of spares.
- Reliable after sales service.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 272

Fodder/Crop residue management Machinery

S.N	Name of Machinery for Fodder /Crop residue Management	Page.No
1	Tractor operated Fodder Harvester	196
2	Forage Harvester	197
3	Cotton stalk Chopper	198
4	Maize grinding Mill	199
5	Maize Huller	200
6	Chaff Cutter	201
7	Forage Chopper	202
8	Sugarcane crusher	203
9	Food Chopper	204

Tractor Operated fodder Harvester



PAU, Ludhiana center has developed and commercialized a flail type mower-cum-chopper for fodder crop harvesting. In a single operation, the machine is capable of harvesting, chopping and loading of fodder crops such as Maize, Bajara and Oats in a trailer, attached behind the machine.

Capacity of the machine: 0.20 ha/hr. at a forward speed of 2.5-4.0 km/h.

Cost of machine: Rs. 1, 25,000/- and its cost of operation is Rs. 1500/ha against Rs. 2000/ha by Conventional method.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 71

FORAGE HARVESTER



Main Features:

Forage Harvesters are ideal machines for harvesting fodder crops such as Maize, Sugar Cane, Sorghum, and Sunflower. This machine operates on Systematic Single Row Plantations. It cuts plant 3 inches above the ground and in small cut length ranging from 2 mm to 22 mm size. This equipment is 1 meter wide and is supported by wheels. It cuts fodder crops including Napier grass, Napier, Tanzania, millet, oats, Sorghum, Soybeans. It cuts the grass from above the ground and into very small sizes. This process ensures to preserve the contents of the crop.

Capacity: 1 meter width harvesting capacity.

Features:

- Wheel for supporting the machine to run on ground
- System of transmission by chains or belts
- System of regulating the height of roller picker

Specifications:

Width of the harvest	1 meter
Weight	170 Kgs
Weight with Harvester	720 Kgs
Production	Up to 20 Tone/Hrs
Minimum height of cut (flat)	5 Cms
Power of Tractor	50 H.P
Speed work	10 Kms./Hr

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 202

COTTON STALK CHOPPER



Cotton Stalk chopper is ideal machine to clear the cotton stalk from the fields. Farmers can put Cotton Stalk grown on their field to a better use rather than burning it in the fields.

Features:

- It cuts the cotton stalk from above the ground and shreds the whole plant in small sizes.
- It can cut the cotton plant in uniform size ranging from 2 mm to 22 mm.
- The cotton stalk plant can be collected in a trolley for further use to manufacture briquettes white coal.
- It requires 55 - 65 hp tractors.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 202

MAIZE GRINDING MILL



Maize Grinding Mills are specifically manufactured for grinding thrashed maize or maize with cobs and straw, cereal husk and various other type of dry grains.

Features

- Our Maize Grinding Mill is durable & long lasting in nature.
- It can be easily maintain & function with great amount of precision.
- It can be easily installed and does not require skilled manpower.
- It has been specially designed and engineered by our talented engineers to reduce load factor.

• Technical Specifications:

Item Code	H.P. Required	R.P.M.	Output Capacity
MM 20	8 - 10	3600	270 - 450

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 202

MAIZE HULLER



Main features:

- Maize Huller Polishes Maize by removing the Bran (Outer Layer) through friction as it passes through the chamber between the EMERY ROLLER and Standard Size Sieve.
- Maize Hullers require low maintenance and lower operational costs and does not need any skilled labour force to operate the machinery.
- Superior quality emery roller polishes maize and removes the bran with ease and it lasts for years.
- These machines are specially designed to give high output with low power consumption.

Technical Specifications:

Item Code	Product	H.P. Required	R.P.M.	Output Capacity*
MH 300	Marina Maize Huller Without Prime Mover	8 - 10	700	800 - 1000 Kg/Hr

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 202

CHAFF CUTTER



Main features

- Marina Chaff Cutter is an ideal farm machine for farmers having few livestock.
- It is durable, long lasting and low maintenance machine.
- It cuts the fodder uniformly, which is ideal for the livestock.
- It improves the digestion of Cattle yielding more milking output capacity.
- It reduces wastage of fodder.
- Durable
- Long lasting & Functionally Superior
- Does not require continuous maintenance
- Superior Quality Blade for longer run

Technical Specifications:

Item Code	Product	H.P. Required	R.P.M.	Output Capacity*	Approx. Cutting Size*
MC-02	Electric motor/Petrol Kerosene Engine Driven Chaff Cutter	1 - 1.5	100	250 - 300	1/2"-1"

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 202

Forage Chopper



Main Features:

- Forage Chopper is an ideal farm machine for farmers having Large Scale Cattle Farm.
- This machine can cut both Dry and Green Grass
- It is durable, long lasting and low maintenance machine.
- It cuts the fodder uniformly, which is ideal for the livestock.
- It can cut in 2 different Sizes of 5mm and 10mm length
- Superior Quality blades are used to reduce the wear and tear and longer use.
- It helps improve the digestion of Cattle yielding more milking output capacity.
- It reduces wastage of fodder.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 202

SUGARCANE CRUSHER



Main features:

- Marina Sugar Cane Crushers are ideal machines to extract Sugar Cane juice with uniform extraction rate
- They are sturdy machines in tough working conditions and have proven their quality with low maintenance and reliability.

Technical Specifications

Cane Crushing capacity/hour*	750 - 1000 Kgs
Extraction	60 - 65 %
Power requirement	10 H.P
Speed of Driving Pulley	250 R.P.M
Size of Pulley	30" X 4. ½"
King Roller	8. 5/8" dia X 8. ½"
Crushing Roller	6" dia X 8. ½"
Extracting Roller	6. 1/8" dia X 8. ½"
Net weight	615 Kgs
Gross weight	750 Kgs

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 202

Food Chopper



Features:

- This Food Chopper has been specially designed for granulating & cutting various materials like foodstuffs, agro products, Ayurvedic herbs etc. into small pieces of required size with minimum of powder content.
- In Electric Food Chopper there is no heat generation while grinding thereby retaining important properties like aroma, taste, flavor & colour.
- Some typical applications for mini food chopper are making crushed chilies for pizza toppings, chopped / minced / granulated onions; tea-cut senna leaves, granulating
- of food colours, gum, asafoetida, crushing of various ayurvedic herbs etc.

List of Manufacturers: Please refer to Page-222-248 as per following

Manufacture: 164

List of Manufactures

Sl. No.	Name of manufacture	Phone no./Fax/E-mail
1	12-2-799/2, G-2, Jandar Nagar, Mehdipatnam Hyderabad, Andhra Pradesh- 500 028, India	Telephone: +91 40 65974111
2	A P State Agro Industries Development Corporation 504, Hemitage Office Complex Hill Fort Road Hyderabad – 500 004	Ph: 040-23391331, 23314246
3	Abudul Kuyum Makkad Iron and Welding Works, Post Paroli Kotadi, Bhilwara	
4	Acharaya N.G. Ranga Agricultural University, Rajendra Nagar, Hyderabad – 500 030 (A.P.)	
5	Adarsh Krushi Engg. Works National highway no. 6 Muktai Nagar Road, Malkapur	
6	Agro Commercial, 8 A, Camac Court, 25 B, Camac Street, Kolkata – 700016	Ph: 033-22874206 Fax: 033-22874139 Mob: 9339872177 Email: agro.equipments@gmail.com Web: agrocom.in
7	Agro Equipments 24 B/1B, Dr. Suresh Sarkar Road Kolkata – 700014	Ph: 033-22450894, 22444689 Mob: 9433090577
8	Akhtri Agriculture Works Muradabad Road, Kashipur (U.S. Nagar)	Ph: 05947-278977, 279764
9	AKRITI, At/P.O. Bamra, Dist- Sambalpur – 768 221	Ph: 06642-229095, 229336 Mob: 9437051336 Email:contact@lathakriti.com Web: www.lathakriti.com
10	Almighty Agrotech Pvt. Ltd.17, Bhaktinagar Station Plot, Rajkot – 360 002	Ph.: 0281-2462289, 2462528 Fax: 0281-2462529 Email: aap@almightyagro.com
11	Amar Agricultural Implements Works, Amar Street, Janta Nagar, Gill Road, Ludhiana – 141 003	Ph: 0161-2491780, 2493128 Fax - 0161 –2491780 Mob: 9872018040 Email: amaragri@satyam.net.in
12	AMB Agrotech, Harish Colony Near S R Patil College, Akola	
13	Ambica Engineering WorksN.H.No. 8, Navagam, Opp. Agro Petrol Pump Kamrej Char Rasta Dist. Surat – 394 185	Ph: 02621-52110 Fax: 02621-51110
14	Anand Agritech Nehru Gunj Gulbarga – 585 104	Ph: 08472-268128 Fax: 08472-277249 Mob: 9448457521 Email: smsrai@rediffmail.com
15	Anjani Engineering Works27 A Mohite Industrial Estate Wanadongri, Hingna Road, Nagpur – 440 016	Mob: 9822457946 Email: anjani.engg@yahoo.co.in

16	Anusham Farm Machinery & Power Equipments Pvt. Ltd. 232, Sathy Road (Opp. Court) Gobichettipalayam Erode – 638 452	Ph: 04285-224251, 224139, 329660 Fax: 04285-227137 Mob: 9443305117 Email: jas.anusham@gmail.com
17	Arcad Fertilizers Pvt. Ltd. 101/102 Bramha Garden Bund Garden Road Pune – 411001	Ph: 020-32947307 Fax: 020-26124590 Mob: 9822016165 Email: arcadsales@gmail.com
18	Arun Industries 118-B, Industries Estate, Kattedan, Hyderabad – 500 077	Ph: 040-24362338, 24360486
19	AS Agencies, 7, KS Lane, SJP Road Cross, Bangalore-560 002	Ph: 080-22237877, 22234057
20	Asha Agro-Industries Lotiya Naka, Indore Raod, Sehore	Ph: 07562-252355
21	Ashok Agriculture Industries Works, Churu Bus Stand ke pass, Taranager, Churu	Ph: 01561-2241270
22	Ashok Engineering Works, Old Bus Stand, Sehore	Ph: 07562-253374
23	Ashrifi Engineering Works Gandhi Nagar, Chittor Gadh	Mob: 94143969152
24	Aspee , Mumbai	
25	Atlas Rolling Shatter Badalee ka chabutra Jalarapatan, Jhalawad	
26	Avtar Kalsi Agro Works, Moga Link Raod, Talwandi Bhai, Distt. Ferozepur	Ph: 01632-231055 Mob: 9814692997
27	Avtar Singh & Sons Near Railway Crossing Ahmedgarh – 148 021 Sangrur (Punjab)	Ph: 01675-240479(O); 240278 (R) Mob: 98142-46278
28	Avtar Kalsi Agro Works, Moga Link Raod, Talwandi Bhai, Distt. Ferozepur	Ph: 01632-231055 Mob: 9814692997
29	B.L. Industries Corporation, G - 1 45 Malupara, Tonk	Ph: 01437-225335
30	Babu lal Jagida and Compny Sinadari Road, Badamer	Ph: 0284-294345
31	BCS India Pvt. Ltd, Manngarh, Kohara-Machhiwara Road, P.O. Kohara, Dist. Ludhiana – 141 112	
32	Bengal Tools Ltd., Shrachi Tower, 686, Anandapur E M Bypass – R.B. Connector Junc. Kolkata – 700 107	Ph: 033-39843984 Mob: 9830458107 Fax: 033-39844249 E-mail: kagarwal@shrachi.com
33	Bengal Tools Ltd., (Agro Divn.) 2, Jessore Road, Dum Dum, KOLKATA – 700 028	
34	Benson Agro Engineering C-8/2, NICE Area, 'A' Road, MIDC, Satpur, Nasik – 422007	Ph: 0253-2354653, 2574932 Mob: 9822398240 Email: bensonindia@yahoo.com

35	Beracha Engineers, 2-B, Tagore Street, PN Pudur, Coimbatore-641 041	
36	Bhagwati Enterprises G-11-12 Aanda Plaza, Ayad puliya, Udaipur	Ph: 0294-2410813
37	Bhagya Organic Manures and Implements, No.4, Kishi Complex, Savadatti Road, Dharwad-580 005	Ph: 0836-2390949
38	Bhansali Trailors Pvt. Ltd. Dhantara, Gurudwara Road Tal. Kopargaon Dist. Ahmednagar (Maharashtra)	Ph: 02423-223391, 92, 93 Fax: 02423-23394 Mob: 9822439621, 9372719494 Email: bhansaliudyog@rediffmail.com Web: www.bhansalitrailors.com
39	Bhanumathe Agencies, 68, Nehru street, Ram Nagar, Coimbatore – 641 009	Ph: 0422 - 4996653 Mob: 98433094587
40	Bharat Agro Agencies Nehru Gunj Gulbarga – 585 104	Ph: 08472-257447, 655578, 220947 Email: bec_rkgblb@rediffmail.com
41	Bharat Agro Equipments Vidya Vihar, Phase-2, Near Kargi Chowk, Dehradun - 248002, Uttaranchal, India	Phone:91-135-2721531
42	Bharat Industrial Corporation Akalsar Road, Moga – 142 001	Ph: 01636-224075, 222075 Fax: 01636-224076 Mob: 98140-69075, 9878029075 Email: baldevmoga@satyamnet.in
43	Bharat Industries c/o M/s Bharat Steel Discs, Delhi Bye-pass , G.T Road, Karnal	Ph: 2220262, 2221555, 2200804, 2201918
44	Bharat Krishi Yantra Udyog 8, Audyogic Sansthan, Pital Mill, Vidisha	Ph: 07592-408055/408031 Mob.: 9826294216, 9425483416 Web: www.jaikishankrishiyantra.com
45	Bharath Farm Implements, PO Box No.11, 126, Tirupur Road, Udumalpet-642 126	Ph: 0422-5521222, Mob: 9842265180, 9894023892 Email: bharathudt@yahoo.com
46	Bharath Foundry & Engineering Works, D-2 Shed, Industrial Estate, TB Dam Road,Hospet- 583 203, Bellary Dist.	Ph: 08394-232240, 232154 Fax: 08394-232113
47	Bharti Krishi Udyog, 24, Industrial Estate, Bina – 470 113	Ph: 07580-22038
48	Bhavani Industries, Gumbaz Road, Ganjam PO, Srirangapathna-571 143, District: Mandya	Ph: 08236-652410, 652702
49	Bhoraste Agro Implements B-187, Shri Samartha Sahkari Audyogik Vasahat Ltd. Pimpalgaon Bk. Mukhed Road Tal. Niphad Dist. Nashiks	Ph: 02550-251222
50	Bhuvana Enterprises, 533, Near Kavitha theater, Kasthuri bhavan hotel, I st floor, Ram Nagar, Coimbatore - 641	Ph: 0422 – 2231956, 2233632 Fax: 0422 - 2537726 Email: bhuvanaenterprises@yahoo.co.in

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51	Bijapur Engineering Works Dattatreya Road Gadag – 582 101	Ph: 08372-237466 Mob: 9448136047
52	Bilal Engineering Works #78-2L, Behind Onion Market Bilal Compound, P.B. Road, Davangere – 577 002	Ph: 08192-270519 Mob: 9845050008, 9844377866
53	Birar Equipments Plot No. B-21, Street No. 4 Nasik Industrial Co- op Estate Satpur, Nashik – 422 007	Ph: 0253-2350148 Fax: 0253-2341473 Mob: 9822258471
54	Birla Power Solutions Ltd., H.O.: 901, Bhikaji Cama Bhawan, 11, Bhikaji Cama Place, New Delhi – 110 066	
55	Bothara Foundry & Machines Works, Plot No. 34 to 40, Industrial Estate Nagar Pune Road, Ahmednagar	Ph: 0241-2551932
56	Brahmpuri Agricultural Implements A-188 (b), Road No. 6D, Vishwakarma Industrial Area Jaipur – 302 013	Ph: 0141-2331549, 5107430, 2332239 Fax: 0141-2332631 Email: rmwl@brahmpuri.com brahmpuri@hotmail.com Website: www.brahmpuri.com
57	Captain Tractors Pvt. Ltd. 106, Royal Complex, Dhebar Road, Ralkot – 360002	Ph: 0281-2228216, 2240501 Email: info@captaintractors.com Web: captainminitractors.com
58	Charbhuja Agro Industries Praksh Nager, Fay Sagar Road, Ajmer	Ph: 0145-2600274
59	Charbhuja Welding Works Salavatiya Bijoliya, Bhilawara	Ph: 01489-236400
60	Chaudhary Engineering Works, Rahatgarh Road, Khurai, Sagar	Ph: 07581-240595
61	Chhabra Machinery and Auto Centre, Damoh	
62	Chudekar Industries Plot No 77, Sector 1-S Road No. 2 New Panvel – 410 206	Ph: 022-64234707
63	CIAE Bhopal, (M.P.)	
64	Dashmesh Agri. Works, Raikot Road, Malerkotla, Distt. Sangrur - 148 023	Ph: 01675-251726 Mob: 9817053726
65	Dashmesh Mechanical Works, Nabha- Malerkotla Road, Amargarh, Distt. Sangrur- 148022	Ph: 01675-284221, Mob: 98151-74313 Fax: 01675-285999 Email: info@dasmesh.net
66	Dayananda Engineering Works No. 768 Old MC Road (Holalu Circle), Mandya – 571 401	Ph: 0823-2224158, 2224248
67	Deccan Farm Equipment Pvt. Ltd., C-35, M.I.D.C. Shirol Kolhapur – 416 122	Ph: 0230-2468904 Fax: 0230-2468905, 2469002 Email: info@pushpak-lemken.com
68	Department of Farm Machinery Agricultural Engineering College and	Ph : 0422-5511257; FAX : 0422-2456478

	Research Institute Tamil Nadu Agricultural University Coimbatore - 641 003.	E-mail: farmmech@tnau.ac.in
69	Dharti Agro Engineering (Shaper) Survey No-35, Plot No-6, Near Saurashtra Paper Board, Gondal Road, Shapar (veraval), Rajkot-2 (Gujarat)	Ph: 02827-252258, 52220 Email: dhartiagro@rediffmail.com
70	Dhinjal Agricultural Industries, Gurudwara Road, Dabra, Gwalior	Ph: 07524-222223, 223376
71	Dr. Jaskaran Singh Sr. Res. Engineer, Department of Farm Power & Machinery, PAU, Ludhiana – 1410044	Phone No: 0161-2408684(O), 2455433 FAX: 0161-2408684/24009455 Mob. 098150671133
72	Droli Agriculture Works, Majestic Road, Moga – 142001	Ph: 01636-223101, 226031
73	Droli Industries (Regd) (BASANT), Near Dhaliwal Hospital, Majestic Road, Moga-142001	Ph: 01636-223557 Mob: 98140-29811 Email: basant_droli@yahoo.com
74	Droli Mechanical Works Near Majestic Cinema, Majestic Road, Moga-142001	Mob: 98413-60027 Ph: 01636-223487
75	Elahi Engineering Works, PB Road, Hiriyur, District : Davanagere	
76	Escort Ltd., Agricultural Machinery Division 18/4 Mathura Road Faridabad – 121 007	Ph.: 0129-2293922 Fax: 0129-2268876 Website: escortsagri.com
77	Everest Industries 122-A, Palani Main Road, SV Mill (PO)-642 128, Udumalpet	Ph: 04252 – 224338 Mob: 98430 24339
78	Falcon Garden Tools (P) Ltd. Alamgir, Malerkotla Road, Ludhiana-141 116 (INDIA)	Tel.: +91-161-2811899 Telefax: +91-161-2812144 Email: falcongardentools@rediffmail .
79	Farm Impalements (India) Pvt. Ltd., 13, Kumarappa Street, Nungambakkam, Chennai-600 034	Website: www.fiipl.in Email: rotavato@vsnl.com Phone: 2826 1676, 2827 3493, 4213 7084 Fax: 91-44-2826 5345, 2823 5007
80	Farm Implements (India) Pvt. Ltd., 13, Kumarappa Street Nungambakkam Chennai- 600 034	Ph: 044-28261676, 28273493, 42137084 Fax: 044-28265345 Email: rotavato@vsnl.com dsb@airtelbroadband.in
81	Farmer tractor, Metoda G.I.D.C., Plot No. G-2779, Road No. 1-2/1-3, Kranti Gate, Distt. Rajkot (GUJARAT)	E-mail: farmertractor@gmail.com
82	Fortune Agro Equipments #35, 1st Main, Lower Palace Orchards Sadashivanagara	Mob: 9448396291, 9448395466 Email: fae2009@rediffmail.com

	Bangalore – 560 003	
83	Four Brothers Ex-Imp Pvt. Ltd Old No. 123 New No. 255, Linghi Chetty Street, Chennai - 600 001 (India)	Tel: +91- 44 - 4216 3224, Telefax: +91 - 44 - 4216 7724, Mobile: +91 - 99401 66232. Website: www.fourbrothersei.com / www.bossmachines.in Email: fourbrothersei@yahoo.co.in / fourbrothersrnd@yahoo.com
84	G. T. Road, Fatheabad	Mob: 9896179002, 9416106150, 9416622749
85	Ganesh Agro Equipments Kalol-Mehsana Highway, Vadpura, Dist. Mehsana-382705, Gujrat, INDIA	Phone: +91-2764-273442/2677446 Mobile: +91-9925031817, +91 9898615911 Email: info@ganeshraaj.com Website: www.ganeshraaj.com
86	Ganesh Agro Machinery Enterprises Tadepallygudem, West Godavari district	Ph: 08818-227203
87	Ganga Motors Farm Equipment Division 23 Ganesh Chandra Avenue, Kolkata – 700 013	Ph: 033-22110604, 22116109 Fax: 033-22158432 Email: gagamtr@airtelmail.in Web: www.gangamotors.in
88	Garib Nawaj Engineering Company, Gandhi Nagar, Chittor Gadh	Mob: 9314112457
89	Gayatri Engineering Works, Near Hospital Chowk, Bangarpet Road, Kolar- 563 101	Ph: 0815-2225045, 2358209
90	Govind Industries Pvt. Ltd., Lucknow Road, Near Railway Crossing, Barabanki – 225 001	Ph: 05248-223056, 227285, 229327 Mob: 9415142894, 9415048612 Email: Deepak_gobind@rediffmail.com
91	Greaves Cotton Ltd. Corporate Park II, 4 th Floor, Sion-Trombay Road, Chembur, Mumbai - 400071	Ph. 022-25264646, 25264723, 25264720 Fax: 022-25262622, 25264800 E-mail: greavesmail.com/bg2
92	Greaves Cotton Ltd. 16/3, All Asker Road, Bangalore – 560 052	Ph: 080-22262062, 22262501/5 Fax: 080-22253472 Web: greavescotton.com
93	Green Field Agro Equipments 41/6 Vikrant, Ground floor Manisha Nagar, Kalwa Thane - 400605	Mob: 9324297960/62/63, 9892828388 Fax: 022-25426459 Email: akasdies@bom5.vsnl.net.in Web: hararamaplastic.com
94	Gujarat Agro Engineering Survey No-34, Plot No-13, Shantidham Bus Stop, Gondal Road, Shapar (Veraval) Rajkot –350 024	Ph: 02827-296195 Mob: 98799 16607, 98257 68595 Email: gujaratgroeng@rediffmail.com
95	Gursukh Agro Works Vill. Jhakroudi, P.O. Samrala, Ludhiana – 141 114	Ph: 01628-262422 Mob: 9417100150 Email: ppsguron@rediffmail.com
96	Guru Nanak Agricultural Implement Mfts., G.T. Road, Bypass, Near Focal Point, Jalandhar – 144 004	Ph: 0181-2602670, 2600040 FAX: 0181-2602670 Mob: 9855894015 Email: gurunanakagri@vsnl.net
97	Guru Nanak Iron Industries N H 26, Lalitpur Road	Ph: 0510-2740649 Fax: 0510-2740649

	Babina Cantt	Mob: 9415412037 Email: gurunanakironindustries@yahoo.co.in Web: www.gnagro.com
98	Guru Nanak Krishi Udyog, Kaithal Road, Main Chowk, Pehowa	Ph: 01741-220247, 220710
99	Gurudatta Agro Agencies & Services 36, Krishi Udyog Bhavan Market Yard, Pune – 37	Ph: 020-24263350 Mob: 9822111294
100	Gurunanak Industries Sales Corp. Near Tinkoni, Opp. BDO Office, Mansa -151 505	Ph: 01652-232998 Fax: 01652-500998 Mob: 9316660082 Email: gurureaper@gmail.com gurureaper@rediffmail.com
101	Gurupal Agri. Works Industrial State, Rudrapur (U.S. Nagar)	Ph: 05944-244594, 250969
102	Hariom Agro Industries Nehrunagar Main Road, Atika SouthThebar Road, Rajkot	Ph: 0281-2368105 Mob: 9879655500, 9925151483
103	Harjinder Agricultural Industries, Jhansi Road, Dabra, Gwalior	Ph: 07524-222347
104	Haryana Krishi Udyog, Hansi (Hisar)	Mob: 9812005615
105	Henan Kingman M&E Complete Plant Co., Ltd (KMEC) Suite A, 4/F, Jinhao Business Bld., Renmin Rd. Anyang, Henan, China PC:455000	Email:info@oilmillplant.com TEL: 0086 372 5080869 (China) FAX: 0086 372 5910386 (China)
106	HIMAGRICO Implements and tools, H.P. Agro Industries, Jassur, Kangra	
107	Himani Agro Industries 3, Near RTO Office, Murtizapur RoadKrushi Nagar, Akola	Ph: 0724-2451892
108	Hind Engineering Works, Near Rly Crossing, Talwandi Bhai, Distt. Ferozepur	Ph: 01632-230110, 556650, 556653 Mob: 9417424978
109	Hindustan Metal E-34, I P E A, Kota	Ph: 0744-2422701
110	Hi-tech Engineering Co., Karnala Mansion, Ground Floor, 143, Infantry Road, Bangalore-560 001	Fax: 080-22863122 Mob: 98451-95168
111	Hrushikesk Agro Machinery Co.N-7, A-4/1, Garware Company, CIDCO, Aurangabad – 431 003	Ph: 0240-2486610 Mob: 9373445241, 9890145241 Email: rushikeshagro@yahoo.com
112	Imaliwala Agrico Mahammad Kamal Post- Paroli, Kotadi, Bhilwara	Ph: 01488 233022
113	Incon Engineers Limited,B-6/3, IDA Uppal, Hyderabad – 500 039	Ph: 040-27204034, 27201271
114	India Engineering Works Toda Road, Malpura, Tonk	Ph: 01432 288610, 288610

115	Indian Institute of Sugarcane Research Raibareli Road, P.O. Dilkusha, Lucknow - 226 002	Ph: 0522-2480726 Fax : 0522-2480738 Email: iisrlko@sancharnet.in
116	Indo German Agricultural Sprayers & Pressing Works, Near Punjab Cold Storage, G T Road, Ludhiana – 141 008	Ph: 0161-2749507, 2749508 Fax: 0161-2745366
117	Indtec Elektro Control F-15, Focal Point, Phagwara Road, Hoshiarpur –146 001	
118	Jai Guru Industries Industrial State Rudrapur (U.S. Nagar)	Ph: 05944-243508, Mob: 983704003
119	Jai Kisan Equipment Pvt. Ltd. Plot No. 14 (1), Kolar Industrial Area, Bidar – 585 403	Ph: 08482-232040, 232255, 227979 Email: jksprayer@vsnl.com
120	Jain Agriculture Implements, Ramnagar Road, Kashipur (U.S. Nagar)	Ph: 05947-274046,
121	Jandu Agro IndustriesB-36, Focal Point, Moga – 142 001	Ph: 01636-221955, 224434 E-mail: drolidmwmoga@yahoo.co.in
122	Jandu Industries Majestic Road, Moga – 142 001	Ph: 01636-223204
123	Jangid Agro Industries Deeg Gate, Kama, Bharatpur	
124	Jay Bajrang Industries 3, Navagam Udhyog nagar N.H. 8, Kamrej Char rasta Ta. Kamrej Dist. Surat – 394 185	Mob: 9377771133, 9825130851 Email: jaybajrangin@yahoo.com
125	Jay Shakti Engineering Works NesdiRoad, Savarkunda – 364 515Dist. Amreli	Ph: 02845-243394, 242394 Mob: 9426456998
126	Jayessar Equipment Private Limited, 91-C, Chinnasamy Naidu Road, New Sidhapudur, COIMBATORE – 641 044 TAMILNADU (INDIA)	E-mail: jayessar@hotmail.com
127	K.B. International 47, G. B. Road, Delhi-110006 (India)	Website: kb-international.co.in Email: sales@kb-international.co.in
128	Kaka Trading Company, Gaitond Complex Old Bus Stand Road Bidar – 585 401	Telefax: 08482-225414 Mob: 9886676116 Email: p_s_gadgi@yahoo.com
129	Kaleem Engineering Works Regulated main gate, Taluk Society Compound, R.M.C. Link Road, Davangere – 577 003	Mob: 9448656102, 9448656098
130	Kalpna Enterprises NB Complex Plot no. 48, Pratap Nagar Thane ke Pass, Udaipur – 313001	Ph: 0294-2491364
131	Kalsi Fabricators, G.T. Road Shahbad	Mob: 9896259290
132	Kalsi Udyog, Shahbad Markanda.-136135	Ph: 01744-240058, 240478. Mob: 9812086955
133	Kanhaiyalal Ramratan Krishi Yantra Lghu Udyog , Bus Stand, Rampura Dabadi, Sikar road,	Mob: 9829195072

	Jaipur	
134	Karnataka Village & Agro Industries, Davangere –577 002	Ph: 08192-270303 Mob: 9880829156, 9449649610
135	Karshak & Sons Shop No. 42, All Karim Trade Centre, M G Road Secundrabad – 500 003	Ph: 040-27542315
136	Karshak Industries 18-3-14, Chatrinaka, O/s Laldarwaza, Hyderabad – 500 053 (AP)	Ph.: 040-24384680, 24382841 Fax: 040-27542353 Mob: 040-56464680
137	Kartar Engineering Works, G T Road, By Pass Near Pathankot Chowk, Jalandhar.	Mob: 9814533526
138	Kartik Enterprises Pvt. Ltd. B-20,Industrial Estate, Cuttack-753010	Ph: 0671-2344254
139	Kashipur Agriculture Implements New Anaj Mandi, Muradabad Road, Kashipur (U.S. Nagar)	Ph: 05947-278977
140	Kasim Ali Fabricators Lal temple ke pass Jalarapatan, Jhalawad	
141	Kavi Agro Agency, 60/8, St. Anne's Complex, Melapudur, Trichy, Tamilnadu - 620 001	E-mail: kaviagro2001@yahoo.com
142	Kerala Agro- Machinery Corpn. Ltd , Marketing Division Athani – 683 585, Distt. Ernakulam (Kerala)	
143	Khalsa Farm Equipments, Dasmesh Nagar, Baghpat Road, Meerut - 250 002	
144	Khedut Agro Engineering Plot No. 6, Survey No. 191 Shantidham Society Road Near Orke Farm, Veraval (Shaper) Ta. Kotada Sangani, Dist. Rajkot	Mob:9426206420 Ph: 02827-253312 Email: dinesh_patel63@yahoo.com
145	Kisan Agro Industries Korli Road, Near Warehouse Pandharpur – 413 304	Ph: 02186-224748 Mob: 9422553334
146	Kisan Blower Udyog Kikwari (K), Taluka-Satara, Dist. Nasik	Mob: 9422250906, 9422274242
147	Kisan Engineering Works, Asnawar, Jhalawad	
148	Kisan Kraft Machine Tools Pvt. Ltd.32/5 C, Dasarahalli Main Road H.A. Farm Post, Hebbal Bangalore – 560 024	Ph: 080-65461434 Fax: 080-22331583 Mob: 9008602201, 9008602202 Email: kisankraft@gmail.com
149	Kishan Agro Engineering Narmda Pipe Road Near Mahendra Mill Survey No. 211, Plot No. 4Veraval (Shaper), Dist. Rajkot	Mob: 9825450676, 9825271967 Ph: 02827-252385
150	Kishan Dust Machine Manufacturing Unit, KPTCL Road, Sahabad Tal. Chitapur, Dist. Gulbarga	Ph: 08474-364058, 365887
151	Kovai Engineering Works (P) Ltd.,88-A, Iyer	Ph: 0422-2316456, 2317776 Mob: 93448-36456

	Hospital Road, Near Kannapirah Mills, Sowripalayam post, Coimbatore – 641 028	Email: kovaienggworks@yahoo.co.in
152	Krishi Yantra Laghu Udyog Nohar, Hanuman Gadh	Ph: 01555-222588
153	KSK engineering College Road, Banswara - 327001	Mob: 9414101135
154	KSNM Marketing, SF No. 29/1B, Ona Palayam Siruvani Water Line Road Dheenam Palayam Post Coimbatore – 641 109	Ph:0422-3251175 Mob: 9363261175 Email: ksnm@hotmail.com
155	Kubota Agricultural Machinery India Pvt. Ltd., Regus, Level 2 Altius Olympia Tech Park, No. 1, SIDCO Industrial Estate, Guindy Chennai – 600 032	Ph: 044-42994237 Fax:044-42994309 Mob: 9600057886 Email: rangarao.kai@kubota.co.in
156	Kumaresh Agencies 518, Nehru Street, New Kavitha Theatre Coimbatore – 641 009	Ph: 0422-2231956, 2233632, 2528087 Fax: 0422-4377726 Email: kumareshagencies@yahoo.co.in
157	Kushwaha Engineering Works Raja Bazar, Bihiya, Bhojpur – 802 151	Mob: 9199754825, 9905874770, 9939978575
158	Lakshmi Agro Industries, 51, Hamidia Road, Bhopal – 462 001	Ph: 0755-5256341, 5256936, 2738647
159	Lakshmi Industires, 4, Industrial Area, Chola Road, Bhopal – 462 038	Ph: 0755-2735543
160	Lakshmi Industires, 4, Industrial Area, Chola Road, Bhopal – 462 038	Ph: 0755-2735543
161	Lalwani Industries, Lalwani Compound, Hamidia Road, Bhopal – 462 001	Ph: 0755-2533901, 2523932, 2586596
162	Laxmi Steel Fabs Nishatpura, Berasia Road, Bhopal – 462 008	Ph: 0755-4251793, 2743375 Fax: 0755-4259468 Mob: 9893698525, 9425007929, 9993187595
163	LCT Feeders' (P) Ltd. 6-158, SLNS Colony, Balapur 'X' Roads, Meerpet, Ranga Reddy Dist. – 500079	
164	Lithotech Engineers 7, Poonam Industrial Estate, Navghar, Vasai Road (East) Thane , Maharashtra- 401 210 , India	
165	Ludhiana Road, Mandi Mullanpur Dakha - 141 101 Dist. Ludhiana	
166	Lynn	
167	M P Iron Industries Kaji Camp, Behind Zdi Hotel	

	Berasia Road, Bhopal - 462 038	
168	M/s Ganga Motors, 23, Ganesh Chandra Avenue, KOLKATA – 700 013	
169	M/s Apas Export Pvt.Ltd., 52 A, Shakespear Savasni 3 rd Floor, KOLKATA	
170	M/s Dogar Tools Pvt. Ltd., Niwas , Station Road, RAIPUR – 492 009	
171	M/s Greaves Ltd., Industry Manor, Appasaheb Marathe Marg, Prabhadevi, MUMBAI – 400 025	
172	M/s Incon Engg. Ltd. B-6/3, IDA Uppal, Hyderabad – 500 039	
173	M/s Khazana Agricultural Equipment Ltd., Aparna Business Centre, T.S.-2, 5, Clive House, Strand Road, KOLKATA – 700 001	Phone: 033-2210 2765, 2242 6763
174	M/s Rajda P&P Corporation, Chatterjee International Centre, 33, A, Jawaharlal Nehru Road, KOLKATA	
175	M/s VST Tillers & Tractors Ltd., P.O. Box No. 4801, Whitefield Road, Mahadevapura P.O., BANGALORE – 560 048	
176	M/s. Bharat Engineering Company Near S.T. Depot, Ta.: Jasdan, Dist. Rajkot – 360 050 (Gujarat)	
177	M/s. Kovai Engineering Works 88-A, Iyer Hospital Road, Near Kannapiran Mills Sowripalayam (PO) – 641 028, Coimbatore (T.N.)	
178	M/S. Padgilwar Agro industries, 192- Wardhaman Nagar , Nagpur-44008	
179	M/s. Taizhou Fengtian Machine Co. Ltd., Sanjia Industry zone, Taizou city, Zhejiang province, China	
180	M/s. Vinod Kumar & Virendra Kumar (Dekhi Wale) Mandi Dhanura-244231 Distt. J.P. Nagar (UP) India	Phone: +81-5924-273176, 274276 Fax: +91-5924-273176 Email: sachindane@gmail.com , ykvagri@yahoo.com Website: www.bestashokaimplements.com

181	MA Durga Agro-Tech Pvt. Ltd.NH-57, Near Fly Over, Mabbi, Darbhanga	Ph: 06272-320026 Mob: 9334169350, 9204655800
182	Maax Engineering, No. 24, Vandikaran Street, maduvinkarai, Chennai - 600035, Tamil Nadu, India	Phone: 91-44-43846150/ 65385608/ 24330041/ 32500041
183	Madan Engineering Works Station Road Jadanu, Nagpur	Ph: 01581-222199
184	Madho Agro IndustriesB-3, Industrial Focal Point, Moga-142001	Ph: 01636-226135, 329906, 220106 Fax: 01636-226135 Mob: 98151-34421, 98155-33106 Email: 1mai@indiatimes.com Web: www.madhoagro.com
185	Madhur Agro Equipments Pvt. Ltd. 34, Friend Colony, Chambaghat, Solan	
186	Madhur Sparayer & Steel works, Near LIC office, The Mall, Solan	
187	Mahalaxmi Enterprises, Kalgatagi Road Dharwad	Mob: 9448145720, 9448355721
188	Maharaja Engineering Works, Sangamner Road, Dattanagar, Shrirampur – 413 709 Dist. Ahmednagar	Ph: 02422-210968 Mob: 9822091168
189	Maharashtra Agro Industries Dev. Cporpn., Ltd., Ranjan House, 3 rd Floor, Prabhadevi, MUMBAI – 25	
190	Mahendra Agro Industries, G.T. Road, Hodal (Haryana)	
191	Mahesh Engineering Works Bus Stand, Barlut, Sirohi	Ph: 02972-260578
192	Malaiya Agro Engineering Pvt. Ltd., 14/A, Sector D-1, sanwer Road Industrial Area Indore – 452 015	Ph: 0731-224686, 721005
193	Malwa Agro Industries Opp. BDO Office, Link Road Mansa - 151505	Ph: 01652-228698 Fax: 01652-500998 Mob: 9876126998 Email: malwaagro@gmail.com
194	Maxtone Petrochemicals I A, Merlin Besara, 13B, Ramesh Mitra Road Kolkata – 700 025	Ph: 033-24546419/4006-4071 Fax: 033-24546421/4006-4071 Mob: 9831080998
195	Mekins Agro Products Pvt. Ltd. Plot No. 5, IDA, Gandhinagar, Balanagar, Hyderabad – 500 037	Ph: 040-23085959
196	Metal India E-135, 136 Industrial Area, Kota	Ph: 0744-2362732
197	Metaplast Industries Kalyaninagar, Cuttack-753010 Dist – Cuttack	Ph: 0671-2344040 Fax: 0671-2345035
198	Mineral Metal Centre, 37, NS. Road, KOLKATA	
199	Modern Industries 52 Industrial Estate, Jalandhar Road, Hoshiarpur-146001	Ph: 01882-251636, 251942 Fax-01882-250236, 2202059

		Email: modernminds@rediffmail.com
200	Modi Industries, Bhusa Mandi Road, Khurai, Sagar	Ph: 07581-240540, 240840
201	Mr. Anirban Burman C. B-59, Sector -1, Salt Lake City, Near P. N. B. Tank, No. 2, Opposite Mafatlal Showroom Kolkata, West Bengal – 700 064, India	Telephone: +91 33 23342787/40043866
202	Mr. Damil J. Patel Near Kashiram Textiles, Narol Ahmedabad, Gujarat - 382 405, India	Telephone: +(91)-(79)-25350187/ 25380512
203	Mr. H S Bhanu Prakash B. M Road, Hassan, Karnataka, India Pin Code: 573201	Phone: 011-8172-267095 Fax: 011-8172-256038 Email: mahimavmacindustries@gmail.com Web Site: http://www.vmacindustries.com
204	Mr. Satish Movaliya Padavla Road, Taluk Kotdasangani, Veraval, Shapar Rajkot, Gujarat - 360 002, India	Telephone: + (91)-(2827)-252547/ 253916
205	Mr. Sobraj Jain No. 2, A. S. Char Street, Chickpet Circle, B. V.K. Iyenagar Road Bengaluru, Karnataka – 560 053, India	Tel: +91 80 41234480/ 42035108
206	Mr. Syed Nisar Ahamed 12-2-799/2, G-2, Jandar nagar, Mehdipatnam, Hyderabad, Andhra Pradesh – 500 028, India	Tel: +91 40 65974111
207	Mukesh Trade Link 217, Emerald Tower, Ashwini Bazar, Udaipur – 313001	Ph.: 0294-2561384, 2420088 Mob: 9414156384, 9414343678 Email: scmukesh@rediffmail.com
208	Nahush Krushi Yantriki Seva 986/C, Shukrawar Peth In front of Saras Garden, Near Mahalaxmi	Ph: 020-256271769
209	Nakoda Agro Bhadesar Chittor Gadh	Mob: 9829589182
210	Nataraj Engg., A-1431, Industrial Estate, Cuttack-10	Mob: 9437045567
211	National Agro Industries Link Road, Industrial Area A, Ludhiana-141003.	0161-2222041, 5087853 Fax-0161-2220299 Mob: 9815043000, 9815064000 Email nationalagro@satyam.net.in
212	New Laxmi Engineering Works Pal Road, Jodhpur	Ph: 0291-2435908
213	New Punjab Mech. Works Main Road, Talwandi Bhai, Distt. Ferozepur – 142 050	Ph: 01632-230124, 304124 Mob: 9814767842 Email: newpunjabagril@yahoo.com
214	New Saggu Agriculture industries, Sadul Shahr, Hanuman, Gadh	Ph: 01503-222359

215	New Vishavkarma Agriculture Works. G.T. Road, Fathabad	Ph. 01667-230066 M: 94161-06524
216	NIPHA 48 Ganga Jamuna, 28/1 Shakespeare Srani, Kolkata-700017	Tel: 91 33 4021 4300, 2287 2511, 2287 4447 Fax: 91 33 2287 5104 Email: nipha@niphaindia.com Website: www.niphaindia.com
217	North India Group of Industries, Sangrur Road, Dirba – 148 035 Dist. Sangrur	Ph: 01676-242167, 242767 Fax: 01676-242667 Email: naidrb@yahoo.co.in
218	Nua Seeds Private Limited Dhillon House Aryasamaj Chowk, Dulladi Gate, Nabha Patiala, Punjab - 147201, India	
219	Nursery Road, Mahadev Nagar, P.O. Devsar, Billimora - 396380, Gujarat, India	Phone: 91-2634-283549
220	Om Engineering Works (India) Pvt. Ltd., Ancillary Industrial Area, P.O. Hatia, Ranchi - 834003	Ph: 0651-22301373 & 2290224 Fax: 0651 & 2200438
221	Omax Energy Pvt. Ltd. Rajkot	Mob: 9427163709
222	Padgilwar Agro Industries 192, Wardhman Nagar, Nagpur - 08	Ph: 0712-2760139, 2763478 Fax: 0712-2763478 Mob: 9823012421 Email: padagro@sancharnet.in
223	Padgilwar Company, Mangaldas Market, Akola – 444 001	Ph: 0724-2433660, 6518616 Fax: 0724-2433660 Mob: 9371009913 Email: jayant@padsons.com
224	Padgilwar Electrical Industries Mangaldas Market, Akola	Ph: 0724-223660
225	Padsons Industries (P) Ltd. H-28/2 Phase – III, MIDC, Akola – 444 104	Ph: 0724-2258099, 6518634, 9371009904 Fax: 0724-2259356 Email: padgilwar@padsons.com , padsons@gmail.com
226	Panesar Agril. Industries Opp. Power House, Bathinda Road, Handiaya, Distt. Sangrur - 148 101	Ph: 01679-284084, 284484 Fax: 01679-284984 Email: panesarcombine@sify.com panesarcombine@yahoo.com
227	Paragati Agro Engineering Cotton Market Road Near Veerashavar Library Gadag – 582 101	Mob: 9448337975
228	Parambeer Engineers & Manufacturers C-71 & 72, Focal Point Moga – 142 001	Ph: 01636-224075, 222075, 229075 Mob: 98140-69075 Email: baldev_moga @satyamnet.in
229	Patil Traders S.V. Patil Complex, India Road Bijapur – 586 101	Ph: 08352-224220 Mob: 9448149848
230	Popular Agril Implements F-26/1, Near Parmar Steel MIDC, Shroli, Kolhapur – 416 122	Ph: 0230-2469699

231	Popular Steel Works & Agricultural Implements Pvt. Ltd., Shivaji Udyam Nagar Kolhapur – 416 008	Ph: 0231-2657424, 2657376 Fax: 0231-2657988 Email: psw@psw.co.in Web: www.psw.in
232	Post Box. No.7602, Aspee House, B.J. Patel Road, Malad West, Mumbai - 400 064, (Maharashtra), India	
234	Pragati Engineering 11/2, Industrial Estate, Madhupatna Cuttack – 753 010	Ph: 0671-2345066, 2347435
235	Prakash Agro Industries, 311-A, Categorized Market, Main Road, Bhopal – 462 001	Ph: 0755-2735024, 2731524 Mob: 9827053683
236	Prakash Metal Craft Industries, 45, F/F, G.D. Complex, Near Krishna Talkies, Jabalpur	Ph: 0761-5016029, 2610918, 5016029 Email: pmci@rediffmail.com
237	Prakash Trolley Works Pali Road, Bar Pali	Ph: 02937-284217
238	Prem Agriculture Industries II phase H/28 Industrial Area Sinadari Road, Badamer	Ph: 02982-224272
239	Premier Magnetos P.O.: Hijli Cooperative, Prembazar, Kharagpur – 721 306	Ph: 03222-279171 Fax: 03222-279171 Mob: 9434205116 Email: premag84@yahoo.co.in Premag72@rediffmail.com
240	Professor and Head Department of Farm Machinery Agricultural Engineering College and Research Institute Tamil Nadu Agricultural University Coimbatore - 641 003.	Ph : 0422-5511257; FAX : 0422-2456478 E-mail: farmmech@tnau.ac.in
241	Puja Laghu Udyog Makshi Road, Jamuna Nagar Dewas	Ph: 07272-255669
242	Punjab Engineering Works G T Road, Near Power House, Talwandi Bhai-142050	Ph: 01632-230130, 230530, 231430 Mob: 9417468328
243	Punjab Engineers Dashmesh Nagar, Baghpat Road, Meerut – 250 002	Ph: 0121-2511627, 6541627 Fax: 0121-2513756 Mob: 9837340086 Email: khalsa_agri@yahoo.co.uk
244	Punjab Krishi Udyog, Bus Stand Road, Damoh	
245	Quality Engineering Works, Barnagar Road, Baledi, Ujjain	Ph: 07367-227004
246	R J Sekar Industries Kuppayeevalasu Porulur (PO) Oddanchatram (Tk) Dindigul – 624 616	Ph: 04553-260749 Mob: 9787242452
247	R K Agro Industries GIDC-1, Plot No. C/2-89 Near Maruti Show Room, Junagadh	Ph.: 0285-2661493 Mob: 9825210411, 9879506420 Email: info@rkagro.com

248	Raja industries, No 49/10-B(30) Dharapuram Road,Udumalpet- 642126	Ph: 0425 – 222628, 222629, 224812
249	Rajiv Farm Machinery,158, Automobile Market, Hisar – 125 001	Mob: 9416136498, 9416165992
250	Rakesh Agriculture Industries Bus Stand, Pisangana, Ajmer	Ph: 0145-2775331
251	Rama Machineries Below Saraswat Bank Agrasen Chowk, Gandhi Bag Nagpur – 440 002	Mob: 9822738939
252	Ratnagiri Impex Pvt. Ltd.# 1/1 G, 7 th Cross, New Guddadahalli Mysore Road Bangalore – 560 026	Ph: 080-26753601, 26753602, 32710246, 32710162 Fax: 080-26751658 Email: info@ratnagirimpex.com
253	RATNAM ENGINEERS, 4-6-11, Opp. R.J.Y. Railway Station, Rajahmundry – 533 101 (A.P.)	E-mail: ratnamengineers@yahoo.com , ratnamengineers@rediffmail.com
254	Redlands Ashlyn Motors Redlands House, Karikkath Lane, Thrissure – 680 001	Ph: 0487-2320893, 3207252 Fax: 0487-2320951 Mob: 9446568563 Email: sales@redlandsmotors.com
255	Redlands Ashlyn Motors Pic Malumachampatty Coimbatore – 641 021	Mob: 9446568563, 9387103530 Email: sales@redlandsmotors.com Website: www.redlandsmotors.com
256	Rekha Agriplas Ltd. 30-22-77, Kanakadurga talkies Road, Seetharamapuram Vijayawada – 2 (AP)	Ph: 0866-2433559, 6612559 Fax: 0866-6613559 Email: agriplas@yahoo.com
257	Riteset Industries Gudivada, Krishna District	Ph: 0864-2439976
258	Rohan Agro Indutries Nehru Gunj, Gulbarga – 585 104	Ph: 08472-268128 Fax: 08472-277249 Mob: 9448457521 Email: smsrai@rediffmail.com
259	S S Industries Plot No. 60/A, 1 st Phase, Tarihal Industrial Area, Tarihal, Hubli – 580 026	Ph: 0836-2310650, 2310398 Fax: 0836-2310348 Mob: 9945524493, 9945059444 Email: enquiry@saiagro.com
260	Sadhu Agro Industries G. T. Road, Fatheabad	Mob: 9896179002, 9416106150, 9416622749
261	Sadrudin and Badarudin Luhar, Luhar Mohalla, Jalarapatan, Jhalawad	
262	Saggu Agriculture Equipment Mathura Road, Kumher Gate Bharatpur	Ph: 05644-260360
263	Sai Sonalika Tractors Near Padmavati Petrol Pump Nagar-Manmad Road, Savedi Ahmednagar – 414 003	Mob: 9422220438

264	Sally Gao	Tel: 86-371-87513089- Fax: 86-371-65863109 Cell phone: 0086-15238020676 Ali. ID: cn200432054
265	Samarth Agro Inputs829 Shrirampur, MIDC	Mob: 9822655006
266	Sanchi Agro Industries 1 Industrial Area, Vidisha	Ph: 07592-250602, 236062
267	Sanjay Industries, Khimlasha Road, Khurai, Sagar	Ph: 07581-240679, 240689
268	Sapthagiri Enterprises 3/1, P.V.S.B. Charities Building College Toad, Hospet – 583 201	Ph: 08394-222524 Mob: 9880783674, 9880984340
269	Sarvesh Agro Enterprises Bhinder, Udaipur	Ph: 0294-224051
270	Sehmbi Agro Industries Nakodar Road Malsian, Jalandhar	Ph: 01821-271158
271	Sehra Motors & Tractor Engg. Works, Nehru Garden Road, Jalandhar – 144 001	Ph: 0181-2257691, 2253512
272	SEPTU (INDIA) PRIVATE LIMITED "Septu House" 12/7, P.O. Box No. 4, Urban Estate, Gurgaon - 122001, Haryana, India	Phone:91-124-2321497 Fax:91-124-2322997
273	Sh. Babu Lal Vikas Trolley Works, Residency Road, Jodhpur	Ph: 0291-2770055
274	Sh. Chabhuja Agro Plot No. G I - A RIICO Industrial Area, Medata City, Nagpur	Ph: 01590-220950
275	Sh. Sujaram Trolley Works M. Post. Kuchera, Nagpur	Ph: 01584-280051
276	Shah Machinery Stores Nehru Gunj Gulbarga – 585 104	Ph: 08472-268128 Fax: 08472-277249 Mob: 9448457521 Email: smsrai@rediffmail.com
277	Shandong Refine Fruit & Vegetable Machinery Technology Co., Ltd. Dian Zi Industrial Park, Bo Xing County. Bin Zhou. Shandong, China (Mainland)- 256508	Phone -86-533-7986833 Fax -86-533-7986822 Web - http://www.sdrufan.com
278	Sharma Engineering, Toda Road, Malpura, Tonk	Ph: 01437-225335
279	Shivraj S Khandagale Greaves Power Tiller A/p Belapur Bk., Tal. Shrirampur Dist. Ahmednagar	Ph: 02422-243609 Mob: 9326611242, 9890998961
280	Shiv-Shakti Laghu Udyog, Agar Road Naka, Ujjain	Ph: 07532-231409
281	Shree Guru Nanak Mechanical Works, Bhusa Mandi, Khurai, Sagar	Ph: 07581-240714, 240715
282	Shree Sai Agro Industries Plot No. 61, 1 st Phase,	Ph: 0836-2310650, 2310398 Fax: 0836-2310348

	Tarihal Industrial Area, Tarihal, Hubli – 580 026	Mob: 9945524493, 9945059444 Email: enquiry@saiagro.com
283	Shree Sai Implement Industries Sai Chambers Gokul Road, Hubli – 580 030	Ph: 0836-2331228, 2332633, 4255771 Fax: 0836-2333287 Email: sai_implement@yahoo.co.in
284	Shree Sai Industries Opp. Vijayalaxmi TVS Show Room, Near Shiva Steel, Gokul Road, Hubli – 580 030	Ph: 0836-2333085, 4152175 Mob: 9945702547, 9448493085, 9448567649
285	Shri Annapoorna Agro Industries, 432, Trichy Road, Coimbatore – 641 005 (TN)	Ph: 0422-2316667 Mb: 09443331670 Email: guruvenkat.venkat@yahoo.com
286	Shri Kanhaiyalal Ramratan Krishi Yantra Laghu Udyog NH 11, Jaipur Sikar Road Bus Stand Rampura Dabri Jaipur - 303704	Ph: 01423-224485, 224685 Mob: 9829175398, 9414594193, 9829195072 Email: info@krkylu.com
287	Shri Mouneshwar General Engineering Works Main Road, Hunasagi, Dist. Gulabarga	Ph: 08444-200300, 200546 Mob: 9449661970, 9448439951
288	Shri Nawab Krishi Yantra Industries RTO Office, Jabalpur	Ph: 0761-2394682
289	Shri Sai Farm Equipments Plot No. 60, 1 st Phase, Tarihal Industrial Area, Tarihal, Hubli – 580 026	Ph: 0836-2310650, 2310398 Fax: 0836-2310348 Mob: 9945524493, 9945059444 Email: enquiry@saiagro.com
290	Shri Sainath Engineering Works, Traffic Island, Neeligin Road Hubli-580 029	Ph: 0836-2355070, 4255774 Fax: 0836-2333287 Email: sai_implement@yahoo.co.in
291	Shri Samarath Agro Inputs Belapur Khurd, Taluka Shrirampur Dist. Ahmednagar	Mob: 9822655006, 9763001006
292	Shri Thakurji Engg. Works, Pvt, Ltd. Kachhwa, Mirzapur	Ph: 05442-82225
293	Shri Vinayaka Agro Tech B-38 NGEF Ancillary Industrial Estate, Mahadevepora Post Bangalore – 560 048	Ph: 080-28524455
294	Shri. I.M. Sreepada Greaves Cotton Limited, P.B. 892, Old Mahabalipuram Road, Thoraipakkam, Chennai – 600 096	E-mail: imsreepada@greavesmail.com
295	Shri. James A. Fernandes Manager Souza Sifang Agro. Engineering Pvt. Ltd, 91, Iconet Business Centre, Temple Road, Malleshwaram Bangalore	E-mail: souzasifang@rediffmail.com
296	Shri. Annapoorna Agro Industries, 29, Thiru Nagar, Dhanalakshimpuram Singanallur, Coimbatore – 641 005	Ph: 0422-2316667, 3238111 Mob: 9443331670 Email: guruvenkat.venkat@yahoo.com
297	Shri. Kanhaiyalal Ramratan Krishi Yantra Laghu Udyog,	Ph: 01423-224485, 224685 Mob: 9829175398, 9414594193, 9829195072

	NH 11, Jaipur Sikar Road Bus Stand Rampura Dabri Jaipur – 303704	Email: info@krkylu.com
298	Shri Mouneshwar General Engineering Works, Main Road, Hunasagi, Dist. Gulabarga	Ph: 08444-200300, 200546 Mob: 9449661970, 9448439951
299	Shri. Sai Farm Equipments Plot No. 60, 1 st Phase, Tarihal Industrial Area, Tarihal, Hubli – 580 026	Ph: 0836-2310650, 2310398 Fax: 0836-2310348 Mob: 9945524493, 9945059444 Email: enquiry@saiagro.com
300	Shri Samarath Agro Inputs Belapur Khurd, Taluka Shrirampur Dist. Ahmednagar	Mob: 9822655006, 9763001006
301	Shri Shivanand Enterprises Stall # 4, Laxmi Complex, Neeligin Road, Hubli- 580 029	Ph: 0836-2353878, 4257878 Mob: 9448236508, 9448564535
302	Shri Vinayaka Agro Tech B-38 NGEF Ancillary Industrial Estate, Mahadevepora Post Bangalore – 560 048	Ph: 080-28524455
303	Shyam Industries, Tonk	Ph: 01432-243228, 243228
304	Singhvi Enterprises Shree Niketan ke Samne, Ashok Nagar Main Road, Udaipur-313001	Ph: 0294-2418908
305	Sirsa Industries D-16, Focal Point Nawanshahr Doaba	Ph: 01823-224116
306	Smita Industries 191/C, Chinchwad 33 Near Hindustan Lever Co. Near Chinchwad Station, Pune	Ph: 020-27455372
307	Sohan Engineering Works E-36 Industrial Area Road No. 2, Kota	Mob: 9414177977
308	Soharr India Agro Division (Regd.), 17/B, Kallur Mandli, Industrial Estate, Shivamogga, KARNATAKA.	E-mail: Eva_ebarnes@yahoo.co.in
309	Solanki Loha Udyog Kendra Station Road, Rau, Indore	Ph: 0731-2856097
310	Sonalika Agro Industries Corporation, 6, Industrial Estate, Jalandhar Road, Opp. ITI, Hoshiarpur – 146 001	Ph.: 01882-252625, 250376, 205794 Fax: 01882-252756 Email: sonalikaagro@sonalika.com
311	SORMAC B.V. Huiskensstraat 68 5916 PN Venlothe Netherlands, P.O. Box 419 5900 AK Venlo	T: +31 (0)77 351 84 44 F: +31 (0)77 320 48 01 E: info@sormac.nl
312	Southern Agro Engine Pvt. Ltd, #24A III Phase Industrial Estate, Guindy, Chennai – 600 032	E-mail: design@southernagro.com
313	Sree Balaji Agro Industries # 114, Urekunte Compound, Opp. Walwalkar (HP) Petrol Pump, P.B. Road, Davangere – 577	Mob: 9448566987, 9844441009

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314	Sree Engineering Co. Peenya Industrial Area Bangalore – 560 030	
315	Sri Dayanand Engineering Works, No.768, Old MC Road, (Holalu Circle), Mandya-571 401	Ph: 0823-224158 Fax: 0823-224248
316	Sri Padma Agro Industries, Opp : APMC Road, Haveri	Ph: 0836-832848
317	Sri Renuka Udyog M I G 1/20, Near K E C Gandhi Nagar, Gokul Road Hubli – 580 030	Ph: 0836-2335228, 5562134 Mob: 9448103583, 9243288564
318	Sri Sivasakthi Vinayaga Trailers 175/2, Anna salai near Fire station, Thavittupalayam Anthiyur- 638 501, Erode	Ph: 04256 -261112 Mob: 98427 66112, 98420 86540 Email: sreesivasakthi@yahoo.co.in
319	Sri Valasumani Hi-tech Engineering Company Sivagiri- 638109, Erode district	Ph: 04204-240478, 240578 Fax: 04204-240478 Mob: 9865888178
320	Sri Vinayaka Industries, 12/7, Nehru Weedhi, Avinashi Road, Peelamedu, Coimbatore- 641 004	
321	Sri. A. Bhaskar Reddy, Prakash Agro Engineers, Proddutur Cuddaph Dist. (AP)	Mob: 9177118818/9390032809 Ph: 040-24361791, Email: ratnabhasker@yahoo.com
322	Srinivas General Engineering Works, Arekurhatti, Tq: Navalagunda, District : Dharwad	Ph: 08380-244253
323	Standard Agriculture Works (Regd.), Standard Chowk, Handiaya – 148 101, Barnala Distt. Sangrur	Ph: 01679-232530 Mob: 93175-104030 Fax: 01679-239061
324	Star Mechanical Works In front of Halali Colony, Sagar Road, Vidisha	Ph: 07592-250045 Mob: 9827260038
325	Steel Man Industry, Near Gayitri Mandir Jhumri Tillaya, Koderma.	
326	Stitch Well Qualitex Pvt. Ltd., G-58, Sector 6, Noida - 201 301	Ph: 0120-2422496, 4222052 Fax: 0120-2422654 Mob: 9811613773 Email: info@sqplindia.com
327	Subash Iron and Agricultural Industries, Industrial Estate, IDCO, Plot No. 8, P.O. Kesinga, Dist. Kalahandi – 766 012	Ph: 06670-222115(O), 223472 (R) Mob: 9437070643, 9437576643 Email: subashiron@yahoo.com
328	Sucha Singh & Bros, Chandigarh Road, Samarala – 141 114 Dist. Ludhiana	Ph.: 01628-262361 Mob: 9815488361 Email: rsingh@rediffmail.com
329	Sujatha Agro Engineers and Traders, Sujatha Agro Equipments Pvt Ltd 162, Venkatasamy Road East R.S.Puram, Coimbatore – 641 002	Ph: 0422 – 553925, 555793
330	Sunfield Agro Industries GT Road, Bye Pass, Jalandhar	Ph: 0181-6451670 Mob: 98149-73573
331	Sunlight Foundary, 35/5, Gokhale Marg, Lucknow	Ph: 05248-222966, 222312 Mob: 9839123230

332	Sunmoon Sleeves Pvt. Ltd., Venkatesh Nagar, Jalna Road, AURANGABAD – 431 001	
333	Super New Punjab Engg. WorksMain Road, TalwandiBhai – 142 050	Ph: 01632-231324, 556324 Mob: 9814918624, 9417951334
334	Sushil Agro Services, Jaipur Vansthali marg Jaipur	Ph: 0141-2374687
335	SV Rangaswamy & Co. Pvt. Ltd., No.2, III Cross, Kalasipalyam, New Extension, POB 6539, Bangalore - 2	Ph: 080-22222301 Fax : 080-22224497
336	Swamy Agro Industries N-7, A-4/1, CIDCO Aurangabad	Ph: 0240-2480135 Mob: 9873545241
337	Swastik Agro Industries D-156, Street 10 MIDC, Dhule	Ph: 02562-239788 Mob: 9423228877
338	Swathi Industries, Marudhanmalai road, New thillai Nagar, PN Pudur, Coimbatore – 641 041	
339	Swathi Industries, Marudhanmalai road, New thillai Nagar, PN Pudur, Coimbatore – 641 041	
340	Taha Engineering Works, Shyampur Road, Sehore	Ph: 07562-222433, 504509
341	TATA Steel Limited 43, Jawaharlal Nehru Road Kolkata- 700071	
342	Texmco Ltd., Belgharia, KOLKATA – 700 056	E-mail: texpt@texmaco.in
343	Tirth Agro Technology Pvt. Limited Near hotel Krishna park, NH-8B Gondal Road, Vavadi, Rajkot-360004, Gujrat, India	Phone: +91-281-2377204, 2386047, Fax: +91-281_2380852 E-mail: info@shaktimanagro.com , website: www.shaktimanagro.com
344	Trimurti Agro IndustriesB-31/32, MIDC Ahmednagar – 414 111	Ph: 0241-2277757
345	Umrao Agro Industries Bindki, Fatehpur	Ph: 05181- 2257696
346	Universal Engg. Traders, 2, Ganesh Chandra Avenue, Commerce House, 3 rd Floor, Room No. 6 A, KOLKATA	
347	Universal Sales Corporation D - 5 A Vandana Apartments, Meera Marg, Banipark, Jaipur	Mob: 98280 14218
348	Usha International Ltd. Plot No. 3, Industrial Area Sector 32 Gurgaon – 122 001	Ph: 0124-4583100 Fax: 0124-4583200 Email: s_mohindru@ushainternational.com
349	V.S.T. Tillers Tractors Ltd. P.B. No. 4801, Mahadevapura	Ph.: 080-28510805/06/07, 28510275, 28510318 Fax: 080-28510221

	P.O., Whitefield Road, Bangalore – 560 048	Website: www.vstillers.com
350	Valampuri Industries, 2, Thiyaagi Kumaran Street (Behind Simpson Company), P.N. Pudur, Coimbatore – 641 041	Ph: 0422-4341273 Mob: 9994941243
351	Valarpirai Agencies Near uzharSanthai36 Kottai Road Namakkal – 637 001	Mob: 9443825812, 9003781177
352	Varsha Associates Mruthyunjaya Compound V. P. Extension Chitradurga – 577 501	Ph: 08194-651721 Fax: 08194-226648 Mob: 9448396261 Email: varsais@rediffmail.com
353	Varushapriya Agrotech Pvt. Ltd. Agro Machinery Division 195, 7 th Cross, 1 st Stage, Indiranagar, Bangalore – 560 038	Ph: 080-25250397 Fax: 080-25252780 Email: prithvibio98@hotmail.com
354	Vasundhara Krishi Yantra Udyog, Nishatpura East, Berasia Road, Bhopal.	Ph: 0755-2733334
355	Vicon Ltd. 35/5 Langford Road Bangalore – 560 025	
356	Vigneswara Altek Engineers Vigneshwara Building 4/16, Rathinagiri Road, Vetri Murugan Nagar, Vilankuruchi, Coimbatore – 641 035	Ph.: 0422-3205090, 2666953 Mob: 9363375756
357	Vijay Engg. & Machinery Co.1420-C Ward, LaxmiPuri Kolhapur- 416 002	Ph: 0231-2641877, 2642515 Fax: 0231-2640420 Email: vemc@sancharnet.in
358	Vijay Foundry andEngineering Works, Station Road, Khurai, Sagar	Ph: 07581-240759, 240859
359	Vijaya Shree Agencies and Pragathi Enterprises, 40, IV Main, NT Per, Bangalore-560 002	Ph: 080-26700063 Fax: 080-26702923
360	Vinay Engineering Works, Bhagat Singh Road, Khurai, Sagar	Ph: 07581-240966, 240567
361	Vishal Industries Urekondi Compound, Opp. Walwalkar (HP) Petrol Pump, P.B. Road, Davangere – 577 002	Mob: 9740555557, 9845819909, 9945713192
362	Vishvakarma Engineering Works, Arjia, Bhilawara	Ph: 01482-264903
363	Vishwakarma Agril. Works. G.T. Road, Daryapur, Distt. Fathabad	
364	Vishwakarma Industries Plot No. 5, Road No. 6Industries Estate, Kattedan	Ph: 040-24361482
365	Vishwkarma Agri. Engg Works, Hoshiarpur Road, VPO – Jandusingha, Dist. Jalandhar	Ph: 0181-2700326 Mob: 98156-1867
366	Vishwkarma Agri. Works Near Dhilwal Bhaba, Barnala to Sehna Bhador	Ph: 01679-288607, 288667 Mob: 98156-1867

	Road, Pakho Kanchian, Distt. Barnala	
367	Viswakarma Engineering Company, Plot No. 138, Road No. 26, Industries Estate, Kattedan, Hyderabad – 500 077	Ph: 040-24361719
368	VST Tillers Tractors Limited P. B. No. 4801, Whitefield Road, Bengaluru, Karnataka, India - 560 048	
369	Walia Steel Furniture and Agril. Implements Ind. Kaned, Tech. Sundernagar, Distt. Mandi	
370	Yugavatar Mehar Baba Agri Machinery's Office & Works: W 37 A & W 38A, Phase III, MIDC Akola – 444 104	Ph: 0724-2258183, 2459261 Fax: 0724-2259303
371	Zamidara Agro Industries Nalagarh	